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SEVENTH ANNUAL REPORT

UNIV. OF MICH.
NOV 20 1909

OF THE

BUREAU OF LABOR STATISTICS

STORAGE

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OF THE

STATE OF MISSOURI

FOR THE

YEAR ENDING DECEMBER 31, 1885.

JEFFERSON CITY, MO.:

TRIBUNE PRINTING COMPANY, STATE PRINTERS AND BINDERS,
1886.

*The merciful man lendeth; the wicked borroweth but
returneth not again.—Ps. 37:21-6.*

No. PLATTE CITY, MO.

W. M. Paxton,

ANNUAL REPORT

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1886.

OFFICE OF COMMISSIONER OF LABOR STATISTICS AND INSPECTION, }
CITY OF JEFFERSON, January 5, 1886. }

Hon. John S. Marmaduke, Governor of Missouri:

SIR—I have the honor to hand you herewith the Seventh Annual Report of the work of this Bureau, as required by section 4 of an act entitled “An act to establish a Bureau of Labor Statistics and Inspection.”

Respectfully,

OSCAR KOCHTITZKY,
Commissioner.

RECOMMENDATIONS.

This Bureau has been greatly perplexed and annoyed at the difficulties encountered in the collection of statistics relating to manufacturers because of the failure of the proprietors of the greater number of manufactories to give the desired information when furnished with the proper blanks, which have been placed in their hands either by mail or by agents appointed for that purpose.

It is true that section 7 of the act creating this Bureau makes it a misdemeanor to refuse or neglect to give such information, and prescribes a penalty; but it does not prescribe the legal process by which the trials may be had; who shall institute the proceedings, or bear the expenses incurred. In this respect the law is practically inoperative.

I would recommend that the law be amended in this particular so as to correct its manifest defects.

Again, because of the scant appropriation for the maintenance of the Bureau, it is a financial impossibility for the Commissioner to visit annually all the mines and manufacturing establishments in the State.

I would suggest as a remedy that the present law be amended so that it would be mandatory upon manufacturers to report annually to the Bureau of Labor Statistics and Inspection certain statistical facts relating to their business which may be within the scope and intent of the law creating the Bureau. This amendment should also apply to all corporations doing business under the laws of Missouri by whom mechanics and other laborers are employed.

I have had less difficulty in obtaining information from the employes than from the employers. To their credit be it said, the wage-workers of the State almost unanimously seem to appreciate the importance of this Bureau as designed to give them information upon matters that vitally affect their interests, and during my brief experience in this office I have always found them ready to lend me a helping hand, and I desire here to return them my thanks.

STRIKES.

STRIKES.

STRIKES IN MISSOURI DURING THE YEAR.

In conformity with your special instructions, I have carefully made personal examination into the causes, etc., of the various strikes of wage-workers within this State during the year 1885, and when possible have attempted to effect settlements of existing difficulties by means of arbitration. A condensed history of these strikes may prove interesting.

STRIKE OF MISSOURI PACIFIC RAILWAY EMPLOYEES.

March 9th, 1885, the shopmen in the employment of the Missouri Pacific Railway system in Missouri, Kansas and Texas, stopped work, their grievance being based upon repeated reduction of wages and shortening of time in the shops of said lines, bringing the wages of the employes below those received for the same work on other lines in Kansas and Missouri. In this strike the men were thoroughly and systematically organized, and every movement was ordered and controlled by an executive committee appointed by the strikers.

A settlement was finally effected through a conference by official representatives of the States of Kansas and Missouri, and the managers of the Missouri Pacific Railway Company, and an agreement was reached, whereby the wages paid prior to September 1st, 1884, were restored, and one and one-half time allowed for extra or overwork, and the promise made that from that date no reduction in pay nor discharge from work would be made unless thirty days' notice of such act should be given. This proposition was at once accepted, and the strike ended. At the date of this report, the agreement entered into, has been faithfully carried out and perfect harmony prevails.

At the conclusion of the strike which at one time threatened the peace of three great States, I had the honor to make the special report which is here reproduced.

REPORT.

OFFICE OF COMMISSIONER OF LABOR STATISTICS AND INSPECTION, }
CITY OF JEFFERSON, March 19th, 1885.

HON. JOHN S. MARMADUKE, *Governor, Jefferson City, Mo.:*

DEAR SIR:—In conformity with your request I have carefully examined into the causes, etc., of the late strike of railroad employes by personal observation and investigation, both at Sedalia and St. Louis, and while I am not at present prepared to make such recommendations as I may hereafter desire to make, from facts connected therewith, I lay before you the following as a partial report, reserving further explanations and recommendations for the next annual report of this Bureau, hoping then to be more fully prepared to present reasons and arguments bearing on the subject.

The strike of the shop-men in the employment of the Missouri Pacific railroad system in Missouri, Kansas and Texas, commencing on Monday, March 9, 1885, was not an impulsive outburst of dissatisfied employes, but it was an action decided upon after full deliberation and consideration of every point. The grievances of the employes were based upon repeated reduction of wages and shortening of time in the shops of said Missouri Pacific railroad and leased lines operated by it, bringing the wages of the employes below the wages paid by other lines in this State and in Kansas and Texas.

The feeling of dissatisfaction was intensified by the publication of the financial statement of the Missouri Pacific Railway Company at the last annual meeting of its directory, showing a large earning for the road, but neglecting to show the deficiency in the earnings of its leased and other lines operated by it; and when, on March 9, a notice was posted in the shops that another reduction would take place, dating from March 1, the employes determined to quit.

This has been, so far as is known, the first strike that has ever been made where the "strikers" were thoroughly and systematically organized, and the control and management of it remained in the hands of the organization. Every movement was directed by the executive committee, and a perfect police system maintained, under which the property of the Railroad Company and private individuals was fully protected.

As this strike was novel in its features, and different from all strikes heretofore, so was also its settlement, it being the first time in the history of strikes that a settlement was made by arbitration by the official representatives of two great States.

By this intervention the employes secured more than they possibly could have secured had they attempted to adjust the difficulties with the officers of the railroads themselves; and they also secured a stronger position in the opinion of the public than any strikers have ever secured before; while the railroad officials, on the other hand, became convinced that arbitration was better than resistance.

The cheerfulness of the railroad officials in complying with the suggestions made by the representatives of Missouri and Kansas for a basis of adjustment, and especially the concession made by Capt. R. S. Hays, First Vice-President of the Missouri Pacific Railroad Company, guaranteeing hereafter to give thirty days' notice of every reduction in wages, I predict, will do more to satisfy the laborers and prevent a recurrence of strikes than any additional agreement that could have been made.

The action of the wage-workers in this last strike fully demonstrates that socialism or communism, as known in Europe, will never take solid hold nor succeed in America. While a feeling of that kind was showing itself occasionally, the overpowering influence of conservatism was determined to preserve law and order; and it is my full belief that hereafter, should another great strike occur, any outcropping of socialism or communism would at once end the strike, as the feeling of the wage-workers is entirely on the side of law and order, many of them being themselves capitalists on a small scale, who, by hard work and frugal living, have secured comfortable homes for their families. This class fully appreciate the great fact that the education of the masses is the most secure method of protecting them from encroachments of capital. At the same time I find that representatives of capital are also fully awake to the fact that if the employes are reasonably educated so they may the more readily understand the full import of any question brought before them, much easier adjustment of difficulties could be made. Education of the laboring classes, conservative action by the laborers, and justice granted by capital will, to a great extent, prevent recurrence of labor troubles.

In attempting to carry out your instructions to effect a just and peaceable adjustment of the difficulties, if possible, I am only too happy to say that the prudent, temperate and conservative co-operation of Adjutant General Jamison was of invaluable assistance, and contributed greatly to the successful termination of the unpleasant affair.

I would be remiss in my obligations did I not also acknowledge the very valuable services of Attorney-General Boone, whose legal knowledge, as cheerfully rendered as it was freely invoked, assisted

materially in the interpretation of legal questions. And likewise of Railroad Commissioners Harding, Pratt and Downing, whose practical experience in railroad affairs, generously given, was of immeasurable advantage.

I have the honor to be,

Very respectfully,

Your obedient servant,

OSCAR KOCHTITZKY,

Commissioner of Labor Statistics and Inspection.

THE STRIKE ON THE WABASH RAILWAY SYSTEM.

The ill feeling resulting from the strike of the shopmen of the Missouri Pacific railway lines, which strike was also participated in by those on the Wabash lines, had been continuously fostered among the shopmen on the latter lines, and a feeling of resentment appeared to continue among them, even after the satisfactory settlement of the strike on the Southwest system.

At the time of the Missouri Pacific strike the Wabash lines were in the hands of the United States court, and while the managers of the lines quietly acquiesced in the results of the settlement of said strike, they did not take an active part in it. Some of the strikers on the Wabash lines had been arrested and convicted of assaults and intimidations, and reports had been circulated that some discharges had been made by the railway officials because the discharged men were members of a labor organization.

The company finally closed its shops at various places, thereby instituting a "lock-out." After a short time new men were employed and the shops again opened.

The representatives of the labor organization, known as the Knights of Labor, now asserted that the management of the Wabash lines was trying to rid the roads of all men known to belong to said organization, and the controversy was diverted from a demand for employment to a question of recognition by the company of said order. The General Manager of the road at various times asserted that it was not true that any discrimination against men because of their affiliation with that or any other order had been made, and that he cared nothing about what organization, if any, the men working for his road belonged to; and that all he demanded from the employes was that they should do the work as he desired it to be done. Notwithstanding his assurances, the agitation of the subject continued.

A strong effort was made to induce the employes of the whole Southwest system of railways to join in a general strike; but the employes of that system, outside the Wabash lines, had no complaint to make, and the agreement made in March having been strictly complied with, no cause existed on those lines for a strike; consequently they refused to join.

The Locomotive Engineers also refused to be drawn into expensive, and as far as they were concerned, uncalled-for complications. The railway company quietly increased its shop force by employing new men, and no difficulty was experienced in operating the road.

This virtually ended the strike, and the discharged workmen were compelled to seek other employment.

THE ST. LOUIS STREET CAR STRIKE.

The strike of the conductors and drivers of the several street car lines in St. Louis in October last, was instituted for the purpose of effecting a reduction in time of labor. The claim was made that work of fourteen to eighteen hours per diem was expected of them. Those of the conductors and drivers who quit work at once joined the organization of Knights of Labor, and established an assembly known as "Cleveland Assembly." The management of the strike was in this way placed in the hands of the executive committee of said assembly, and this committee insisted upon a settlement of differences between the street car managers and their employes to be made through its agency. This the street car managers refused to do, but expressed themselves as willing to treat with their own men independently of this committee.

The supply of labor, such as is required to run street cars, being far in excess of the demand, new men could be readily supplied to fill the places made vacant by the strikers, and the strikers, for this reason, failing to accomplish their purpose of stopping the street car service, in some instances resorted to violence, destroying the property of the companies, injuring passengers on the cars, and even endangering the lives of some of them. These actions, in connection with the fact that the strike was inaugurated at a time when St. Louis was full of strangers visiting the Exposition and Fair, lost the strikers all sympathy of the public, and every effort possible was made to stop their lawless acts and bring the perpetrators to justice. The supposed instigators and perpetrators were, however, soon arrested, and the strike practically ended.

COAL MINERS' STRIKE AT BEVIER.

The strike of the coal miners at Bevier, Macon county, Mo., was inaugurated April 1, 1885, the miners refusing to work under a proposed reduction of twenty-five per cent. on the preceding year's wages. I was requested by both miners and operators to attempt a settlement of the differences, and, with that end in view, met the miners and operators at Bevier, when I made two propositions, under either of which I supposed an agreement could be reached.

The first was a sliding scale plan—the minimum price for mining coal to be $87\frac{1}{2}$ cents a ton, and if the selling price of coal should reach \$1.70 or over per ton, forty per cent. of the amount over \$1.70 should go to the miner. A committee of employes of the mine was to be appointed every month to examine the books of the operator, and from their report the basis of wages was to be made.

The second plan was that the miners should work at a reduction of $12\frac{1}{2}$ per cent. of the preceding year's wages until the price of coal would warrant better pay.

Both propositions were rejected, not so much on account of the price to be paid, but on account of the recently enacted law, known as the "Screening Law," which provides that the coal shall be weighed on top of the shaft before screening, and paid for on a basis of eighty pounds a bushel.

At a subsequent meeting, held June 11, 1885, an agreement was reached and accepted by both operators and miners, and which also conformed to the "Screening Law." This was as follows:

The price of mining coal from April 1, 1885, to October 1, 1885, to be $3\frac{1}{2}$ cents for 100 pounds; and from October 1, 1885, to April 1, 1886, to be 4 cents per 100 pounds, unscreened, mine-run coal, to be weighed on top of the shaft.

Mr. Atwill and Mr. Watson, on behalf of the operators, accepted this proposition. The miners of Mr. Atwill's mine resumed work, but when those employed in Mr. Watson's mine presented themselves to resume work they were requested to sign the following contract, which they refused to do, and the strike was continued until July 1st:

MINER'S ANNUAL CONTRACT.

This agreement, made this 16th day of June, A. D. 1885, between W. S. Watson, of the first part, and D. W. Roberts, of the second part, witnesseth:

That said party of the second part has agreed, and by these presents does agree, to enter into the employment of the said party of the first part, as a miner of coal, to commence on the 16th day of June, A. D. 1885, and continue therein until the 1st day of April, 1886, and to abide by, adhere to and observe all the rules and regulations hereto appended, which are made a part of this contract, and abide by and observe all the rules and regulations promulgated from time to time by the said coal company, with the consent of the party of the second part, for the purpose of regulating mining and other employment in and about the coal mines of the said coal company, and not to be absent without leave, except in case of sickness or other unavoidable contingency that would prevent him from work; also to keep his room in good working order.

The said party of the first part agrees to pay the party of the second part for each 100 pounds of coal mined by him and delivered on pit cars at the face of the room where the same is mined, as follows, viz:

For mining three and a half cents per 100 from April 1, 1885, and four cents from October 1, 1885, to April 1, 1886.

All coal to be thoroughly free of sulphur and clay, not riddled. Said first party hereby reserves the privilege, however, of closing the mines at any time, or of reducing the number of miners by discharging them, or such of them as the superintendent or person having charge of the mines for the time being may think proper, including said second party. All payments to be made at the regular pay day, and in accordance with the rules and regulations aforesaid; and the pay day will be on the 20th of each month for all wages or moneys that may have been earned during the last calendar month previous to such pay day.

And it is hereby expressly agreed to and understood by the party of the second part, that should he become a tenant of the party of the first part, during the term of this engagement, that in case of its termination, either by his discharge from said company's employ, or in any other way, he will vacate the premises so occupied by him as early as practicable thereafter, upon verbal notice from the company's agent or superintendent, and that he will not be entitled to receive any part of the wages due him for labor performed, should the party of the first part so elect, until the premises are vacated, and the keys of the same delivered at the company's office.

And the party of the second part further agrees that he will not stop work, join any "strike" or combination for the purpose of obtaining or causing the company to pay their miners an advance of

wages, or pay beyond what is specified in this contract, nor will he in any way aid, abet, or countenance any such "strike," combination or scheme for any purpose whatever during the time specified in the first clause of said contract. And if the second party shall violate any of the provisions of this contract in this regard, at any time, he shall thereby forfeit all claims for coal previously mined and not paid for, and the first party be released from liability therefor.

RULES AND REGULATIONS.

I.—Every employe of the Company will be required to be ready for duty when the whistle blows for work, every morning, and will be expected to perform a full day's work of ten hours in his respective line of employment, unless the foreman of his department orders less time to be worked. Engineers are strictly forbidden to lower any miner or underground laborer into any pit after seven o'clock, a. m., without order from the Pit-Boss or person in charge of the pit head.

II.—No suspension of work shall take place during working hours, except in case of actual necessity.

III.—Any employe feeling aggrieved in any respect, must present his claim to the Pit-Boss in person. If they fail to adjust the matter in a manner satisfactory to the employe, it may be referred to the Superintendent, (if either party desire), whose decision, upon the hearing of both sides of the question, will be final.

IV.—Any employe who may have been discharged by the Company, or who, with the consent of the Company, may have left its service, shall receive all arrearages of pay due him at once. The Company will consent to their employes leaving their service without previous notice, except under circumstances that in their judgment would indicate bad faith.

V.—No person will be allowed to interfere in any manner with the employer's just right of employing, retaining and discharging from employment, any person or persons whom the superintendent or Pit-Boss having charge of the mines for the time being may consider proper; nor interfere in any way, by threats or menace, or otherwise, with the right of any employe to work, engage to work in any way, and upon any terms, and with whom he may think proper and best for his interest, or the benefit of his family.

VI.—No employe will be permitted to fill his place by another man without the consent of the Superintendent.

VII.—Every employe will be paid once a month, at the regular pay day, all wages or moneys he may have earned during the last calendar

month previous to such pay day after deducting any indebtedness which such employe may owe to the Company, or which the Company, with the consent of such employe, may have assumed to pay to any other person.

VIII.—It shall be the duty of every miner working in the mines to keep his room in said mines in good order and repair; and any such miner who shall willfully, negligently, or carelessly suffer his room to get out of order or repair, and who shall not, upon request, immediately put the same in repair, the Company may put such room in repair at the expense of the miner in default, and may retain the amount of such expense from the next or any future payment to which said employe would be otherwise entitled, until fully reimbursed for such expense.

IX.—No miner who has left the employment of the Company, whether voluntarily or by discharge, will be entitled to receive any arrearages of pay due him for labor performed, whether on the regular pay day or during the interval preceding pay, until he shall have put his room and road way in perfect working order, as required by his contract with the Company. All miners leaving said employment will be required to procure the certificate of the Pit-Boss that they have complied with the requirements of this rule, as aforesaid, before making application at the Company's office for final payment.

X.—Any tenant of the company, upon leaving its service, whether voluntarily or by discharge, will not be entitled to receive any part of the wages due him for labor performed, until he shall have vacated the premises occupied by him, (should the Superintendent or other person in charge of the mines for the time being so elect), and presented the keys of the same at the office.

A settlement of the differences caused by the new screen law was effected June 26, 1885, at Rich Hill, to which place I had been called by both operators and miners, on the following terms:

Miners in the Rich Hill mines to be paid 50 cents per ton, or 2 cents per 80 lbs. of mine-run coal, to be weighed on top of the shaft. For sixty days, beginning July 1, 1885, the coal to be reweighed after screening, the percentage of loss in 80 lbs. of mine-run coal by screening to be the basis upon which the price to be paid shall be fixed, not to be below 2 cents for 80 lbs., thereby making wages equal to those received before the strike.

This settlement was satisfactory to all concerned, and finally the miners in all other mining camps, including those of Bevier, resumed work on practically the same basis, varied only by dissimilar conditions of mines.

One result of the strike at Bevier is the establishment of a co-operative mining company, the operations of which are presented under the head of "Co-operation."

The subsequent troubles between the white and negro miners at Bevier is in no sense the result of a strike or a disagreement about wages, but merely the outgrowth of natural race prejudices, the merits of which it is outside the province of this Bureau to discuss.

KNITTING GIRLS' STRIKE.

The employes of the knit goods manufacturing establishments in St. Louis engaged in a strike in February against a contemplated reduction in pay. The work in this industry is generally paid by the piece, and is performed entirely by girls, mostly between 10 and 18 years old, and the earnings average from \$2.00 to \$3.00 a week. Only a part of the knitters took part in the strike, many of them remaining at their machines at work.

Upon personal investigation, the manufacturers stated that on account of eastern competition prices for labor could not be advanced, but could scarcely be maintained.

The striking knitters attempted to establish a co-operative manufactory of knit goods, but the enterprise failed, and most of them returned to work.

HARSH AND UNNECESSARY CONDITIONS
IMPOSED ON THE WORKINGMEN.

HARSH AND UNNECESSARY CONDITIONS IMPOSED ON THE WORKINGMEN.

In the course of a year's official duties, in which I have labored with impartial earnestness to make more pleasant the relations existing between the employer and the employe of Missouri, I have become convinced that trivial circumstances too frequently excite mutual distrust, and that bad blood and impetuosity are engendered to the injury of each, which frank and courteous conferences would avoid. The employer is very naturally jealous of what he conceives to be his rights, and is usually quick to resent what he regards as a presumptuous interference in the management of his own business. As the reverse of this, the employe, whose lot at best is a severe one, is prone to be suspicious of actions which he imagines will make worse his condition and draw more tightly the reins of the slavery of labor. Exacting operators and unscrupulous demagogues and agitators fan these suspicions and jealousies into flames of hate, resulting in "lock-outs" and strikes. The only remedy is, first, mutual consideration and forbearance; and, second, an unreserved presentation of all the facts pertaining to the grievances with an honest view to their settlement.

It is too frequently the disposition of employers to exact harsh and humiliating conditions from their employes. Complaints on this score are constantly being made to this Bureau, which is powerless to give relief. I cite as an illustration of this the contract required to be signed by the employes of a coal mine at Bevier, which is printed in full in this report under the head of "Strikes."

Some of these exactions are ludicrous, but are nevertheless exasperating, as the following rules and regulations of a great St. Louis industry creating a so called "Relief Society," illustrate:

RELIEF SOCIETY.

ARTICLE I.

This body shall be known as the St. Louis — Relief Society, with power to make its own laws and rules of discipline.

ARTICLE II.

The object of this society is to unite the employes and those connected with the St. Louis —, to establish a fund for the distressed members or those who may become disabled by accident, while at work. All persons employed by the St. Louis — *must* join this society.

ARTICLE III.

The initiation fee of this society is fifty cents, weekly dues ten cents for men; and twenty-five cents for initiation fee, weekly dues five cents for boys. Any member failing to pay his dues for four weeks is no longer a member of this society.

ARTICLE IV.

A disabled member paying ten cents weekly dues shall be entitled to \$5.00 per week, and those paying five cents weekly dues \$2.50 per week and the attention of the physician. No benefits shall be paid for less than one week's disablement.

ARTICLE V.

Should any member of this society feign himself disabled for the purpose of fraudulently obtaining benefits (to be judged by the society physician,) he shall at once be expelled from the society.

ARTICLE VI.

The society physician shall be a competent registered physician. His duty shall be to attend the disabled members, and to report their condition at the end of each week to the society.

The society is to pay the physician monthly. His salary shall be whatever the officers agree upon. On the first of each month should he neglect to perform the duties assigned him, his office may be declared vacant by the President and a new election take place immediately.

ARTICLE VII.

All benefits shall cease at the expiration of six weeks from date of disablement.

ARTICLE VIII.

No money shall be paid out of the fund except upon warrants drawn by the President and Secretary and that for benefits only. All claims for benefits for disablement must be signed by the society physician.

ARTICLE IX.

All members becoming disabled must at once notify the Secretary whose duty it will be to notify the Physician and give the address of applicant. Benefits to be allowed from date of report to Secretary in case of one week's disablement.

ARTICLE X.

The Secretary must be notified by all members changing their residence.

ARTICLE XI.

The regular meeting of this society shall be on the first Saturday of each month immediately after quitting time in the office. Special meetings may be called by the President.

ARTICLE XII.

The officers of this society shall consist of President, Vice-President, Secretary, Financial Secretary, Treasurer and Physician, to be elected semi-annually on the first meeting in January and July.

ARTICLE XIII.

It shall be the duty of the President at the commencement of his term of office, to appoint a committee of two, who shall serve for his term, to attend all meetings of the society.

ARTICLE XIV.

Any member leaving the employ of the St. Louis ——— is no longer a member of this society and the money paid in is forfeited.

BOYCOTTING.

Boycotting as a new method of warfare of labor against capital, has only been introduced into the United States within the last few years, but in that short time has proven to be most powerful, if resorted to by organized labor. The following table, prepared by Bradstreets, after a close and careful inquiry into the growth and employment of boycotting in the United States, contains a classified list of boycotts within the last two years :

THE BOYCOTTED.	Total Number..			
	Total Number..	Claimed gained.	Admitted lost..	Still on.....
Newspapers	45	13	10	22
Hat manufacturers and dealers.....	22	4	...	18
Cigar manufacturers and dealers.....	26	11	5	10
Carpet manufacturers and dealers.....	13	...	1	12
Clothing manufacturers and dealers.....	14	1	...	13
Nail manufacturers and mills.....	10	...	...	10
Dry goods dealers.....	7	...	...	7
Boot and shoe manufacturers and dealers.....	7	...	1	6
Stove makers and dealers.....	5	3	...	2
Flour mills.....	3	1	...	2
Hotels and public houses.....	4	3	...	1
Breweries.....	4	3	1	...
Printers, etc.....	3	...	...	3
Bakers.....	2	1	1	...
Excursion steamers.....	5	5	...	...

BOYCOTTING—CONTINUED.

THE BOYCOTTED.	Total Number..	Claimed gained.	Admitted lost..	Still on.....
Silver factory, watch cases.....	3	...	...	3
Tailors.....	4	2	...	2
Theaters (musicians).....	2	2	...	...
Publishers.....	2	2	...	...
Street railway.....	1	...	1	...
Steamship company.....	1	1	...	...
A special beverage.....	1	...	...	1
Postmasters.....	2	2	...	...
Starch maker.....	1	1	...	...
Baking powder maker.....	1	1	...	...
Washing preparation maker.....	1	1	...	...
Can makers.....	1	1	...	...
Stereotype plates.....	1	...	...	1
Pianos and organs.....	1	...	...	1
Broom manufacturers.....	1	...	1	...
Cooper works.....	1	1	...	...
Box manufacturers.....	1	...	1	...
Knit goods manufacturers.....	1	...	1	...
Chinese employers.....	41	40	1	...
Totals.....	237	99	24	114
Excluding Chinese boycotts.....	196	59	23	114

From this table it will be seen that the most extensive use of the boycott was made by the typographical unions; the most successful ones, against employers of Chinese labor, cigar manufacturers and dealers and postmasters; and those made against a street railway, broom manufacturer, box manufacturer and knit-goods manufacturers are claimed as total failures.

ARBITRATION.

ARBITRATION.

In many other States more extensive and disastrous strikes existed during last year, than in Missouri. Most notable among them were the strikes of coal miners in Pennsylvania, Ohio and Illinois, those of the iron-workers of Pennsylvania and Ohio, those of the lumbermen in Minnesota and Michigan, and those of the employes of cotton mills and cigar manufacturers in New York and other eastern States.

In many instances a failure to accomplish the object desired was the result, either of the financial inability of the strikers to maintain the strike, or the impossibility of the employers to accede to the demand of the strikers on account of the great depression in trade existing at the time. In some instances the strikes were settled by *arbitration*, which mode of settlement has shown by its success, to be the best, cheapest and most satisfactory means of settlement of labor disagreements. Every contest between employer and employe is based on the question of right or wrong, and this question can be more easily and satisfactorily settled by *disinterested* parties, who are certainly better qualified to discover what is right than the parties involved in the contest.

A settlement of any such differences *before* a strike is resorted to, will be easier accomplished, because the ill-feeling between employer and employe, naturally existing between them at a time that either of them claims to have been wronged, will not have reached such a point as it would if aggravated by an actual strike, and consequently a more reasonable agreement could be reached.

The establishment of Boards of Arbitration so constituted as to command the confidence of the wage-worker will show to them that society will not leave the settlement of the difference between them and their employers to the force, influence and power of capital, and at the same time assures the employer that society will not permit the employes to compel by force of physical power, and superiority of numbers, acquiescence to their demands.

It will assure both parties that their demands will be carefully considered, and if reasonable, peaceably adjusted without the expensive experiment of a strike. In this way many a strike would be prevented, as the careful and conservative workman will not be induced to enter a costly, and as to success likely doubtful, strike, when he sees a way provided by which he can accomplish all he desires, or is entitled to, in a peaceable way at little cost, and without loss of time to him and his fellow-workman.

It cannot be expected that Boards of Arbitration would prevent all strikes, but it can reasonable be hoped that they would make strikes less frequent or of shorter duration.

If the full loss occasioned by strikes, both to the employer, employe and the public at large could be ascertained or even approximated, and the results generally known, strikes would seldom be resorted to, were any other method of settlement presented.

It is estimated that the coal miners' strike of 1884 in the Hocking Valley, Ohio, occasioned a loss of upwards of \$3,500,000.00.

Many States have adopted laws establishing Boards of Arbitration.

Below is a copy of the law adopted by the State of Ohio, February 10, 1885.

AN ACT

To authorize the creation and to provide for the operation of tribunals of voluntary arbitration to adjust industrial disputes between employers and employed.

SECTION 1. *Be it enacted by the General Assembly of the State of Ohio,* That the court of common pleas of each county, or a judge thereof in vacation, shall have the power, and upon the presentation of the petition, or of the agreement hereinafter named, it shall be the duty of said court, or a judge thereof in vacation, to issue in the form hereinafter named, a license or authority for the establishment within and for each county of tribunals for voluntary arbitration and settlement of trade disputes between employers and employed in the manufacturing, mechanical, or mining industries.

SEC. 2. The said petition or agreement shall be substantially in the form hereinafter given, and the petition shall be signed by at least forty persons employed as workmen and by four or more separate firms, individuals, or corporations within the county, or by at least four employers, each of whom shall employ at least ten workmen, or by the representative of a firm, corporation, or individual employing not less than forty men in their trade or industry; provided that at the time the petition is presented, the judge before whom said petition is pre-

presented, may, upon motion, require testimony to be taken as to the representative character of said petitioners, and if it appears that the said petitioners do not represent the will of a majority, or at least one-half of each party to the dispute, the license for the establishment of the said tribunal may be denied, or may make such other order in this behalf, as to him shall seem fair to both sides.

SEC. 3. If the said petition shall be signed by the requisite number of both employers and workmen, and be in proper form and contain the names of the persons to compose the tribunal, being an equal number of employers and workmen, the judge shall forthwith cause to be issued a license substantially in the form hereinafter given, authorizing the existence of such tribunal and fixing the time and place of the first meeting thereof, and an entry of the license so granted shall be made upon the journal of the court of common pleas of the county in which the petition originated.

SEC. 4. Said tribunal shall continue in existence for one year from the date of the license creating it, and may take jurisdiction of any dispute between employers and workmen in any mechanical, manufacturing, or mining industry or business, who shall have petitioned for the tribunal, or have been represented in the petition therefor, or who may submit their disputes in writing to such tribunal for decision. Vacancies occurring in the membership of the tribunal shall be filled by the judge or court that licensed said tribunal, from three names presented by the members of the tribunal remaining of that class in which the vacancies occur. The removal of any member to an adjoining county, shall not cause a vacancy in either the tribunal or the post of umpire. Disputes occurring in one county may be referred to a tribunal already existing in an adjoining county. The place of umpire in any of said tribunals and vacancies occurring in such place, shall only be filled by the mutual choice of the whole of the representatives, of both employers and workmen constituting the tribunal, immediately upon the organization of the same. The umpire shall be called upon to act after disagreement is manifested in the tribunal by failure during three meetings held and full discussion had. His award shall be final and conclusive upon such matters only as are submitted to him in writing and signed by the whole of the members of the tribunal, or by parties submitting the same.

SEC. 5. The said tribunal shall consist of not less than two employers or their representatives, and two workmen. The exact number which shall in each case constitute the tribunal, shall be inserted in the petition or agreement, and they shall be named in the license issued. The said tribunal, when convened, shall be organized by the

selection of one of their number as chairman and one as secretary, who shall be chosen by a majority of the members, or if such majority cannot be had after two votes, then by secret ballot, or by lot, as they prefer.

SEC. 6. The members of the tribunal shall receive no compensation for their services from the city or county, but the expenses of the tribunal, other than fuel, light, and the use of the room and furniture, may be paid by voluntary subscription, which the tribunal is authorized to receive and expend for such purposes. The sessions of said tribunal shall be held at the county seat of the county where the petition for the same was presented, and a room in the court house for the use of said tribunal, shall be provided by the county commissioners.

SEC. 7. When no umpire is acting, the chairman of the tribunal shall have power to administer oaths to all witnesses who may be produced, and a majority of said tribunal may provide for the examination and investigation of books, documents, and accounts pertaining to the matters in hearing before the tribunal, and belonging to either party to the dispute; provided, that the tribunal may unanimously direct that instead of producing books, papers, and accounts before the tribunal, an accountant agreed upon by the entire tribunal, may be appointed to examine such books, papers and accounts, and such accountant shall be sworn to well and truly examine such books, documents and accounts, as may be presented to him, and to report the results of such examination in writing to said tribunal. Before such examination the information desired and required by the tribunal shall be plainly stated in writing, and presented to said accountant, which statement shall be signed by the members of said tribunal, or by a majority of each class thereof. Attorneys at law or other agents of either party to the dispute, shall not be permitted to appear or take part in any of the proceedings of the tribunal, or before the umpire.

SEC. 8. When the umpire is acting he shall preside, and he shall have all the powers of the chairman of the tribunal; and his determination upon all questions of evidence, or other questions, in conducting the inquiries then pending, shall be final. Committees of the tribunal consisting of an equal number of each class may be constituted to examine into any question in dispute between employers and workmen which may have been referred to said committee by the tribunal, and such committee may hear and settle the same finally, when it can be done, by a unanimous vote, otherwise the same shall be reported to the full tribunal, and be there heard, as if the question had not been referred. The said tribunal, in connection with the umpire,

shall have power to make, ordain, and enforce rules for the government of the body when in session, to enable the business to be proceeded with in order, and to fix its sessions and adjournments; but such rules shall not conflict with this statute, nor with any of the provisions of the constitution and laws of Ohio.

SEC. 9. Before the umpire shall proceed to act, the question or questions in dispute shall be plainly defined in writing, and signed by the members of the tribunal, or a majority thereof of each class, or by the parties submitting the same; and such writing shall contain the submission of the decision thereof to the umpire by name, and shall provide that his decision thereon, after hearing, shall be final. The umpire shall be sworn to impartially decide all questions that may be submitted to him during his term of office. The submission and his award may be made in the form hereinafter given, and said umpire must make his award within ten days from the time the question or questions in dispute are submitted to him. Said award shall be made to the tribunal; and if the award is for a specific sum of money, said award may be made a matter of record by filing a copy thereof in the court of common pleas of the county wherein the tribunal is in session. When so entered of record it shall be final and conclusive, and the proper court may, on motion of any one interested, enter judgment thereon; and when the award is for a specific sum of money, may issue final and other process to enforce the same.

SEC. 10. The form of the joint petition or agreement praying for a tribunal under this act shall be as follows:

To the Court of Common Pleas of _____ County (*or to a judge thereof, as the case may be:*)

The subscribers hereto, being the number and having the qualifications required in this proceeding, being desirous of establishing a tribunal of voluntary arbitration for the settlement of dispute in the _____ (*here name the branch of industry*) trade, and having agreed upon A, B, C, D and E, representing the employers, and G, H, I, J and K, representing the workmen, as members of said tribunal, who each are qualified to act thereon, pray that a license for a tribunal in the _____ trade may be issued to said persons named above.

Employers.	Names.	Residence.	Works.	Number Employes.

SEC. 11. The license to be issued upon such petition, may be as follows:

STATE OF OHIO, }
 _____ County, } ss.

WHEREAS, The joint petition and agreement of four employers (*or representatives of a firm, corporation, or individual employing forty men, as the case may be*), and forty workmen has been presented to this court (*or if to a judge in vacation, so state*), praying the creation of a tribunal of voluntary arbitration for the settlements of disputes in the _____ trade within this county, and naming A, B, C, D and E, representing the employers, and G, H, I, J, and K, representing the workmen, Now, in pursuance of the statute for such case made and provided, said named persons are hereby licensed and authorized to be and exist as a tribunal of voluntary arbitration for the settlement of disputes between employers and workmen for the period of one year from this date, and they shall meet and organize on the _____ day _____, A. D. _____, at _____.

Signed, this _____ day of _____, A. D. _____.

_____ Clerk of the Court of Common Pleas of _____ County.

SEC. 12. When the tribunal agrees to submit a matter in controversy to the umpire, it may be in form as follows:

We, A, B, C, D and E, representing employers, and G, H, I, J and K, representing workmen, composing a tribunal of voluntary arbitration, hereby submit and refer unto the umpirage of L (*the umpire of the tribunal of the _____ trade*), the following subject-matter, namely: [*Here state fully and clearly the matter submitted.*] And we hereby agree that his decision and determination upon the same shall be binding upon us, and final and conclusive upon the question

thus submitted; and we pledge ourselves to abide by and carry out the decision of the umpire when made.

Witness our names this — day of —, A. D. —.

[Signatures.]

SEC. 13. The umpire shall make his award in writing to the tribunal, stating distinctly his decision on the subject-matter submitted. And when the award is for a specific sum of money, the umpire shall forward a copy of the same to the clerk of the proper court.

SEC. 14. This act shall be in force from and after its passage.

A law, providing for Boards of Arbitration, when voluntarily called for by disputing parties, would greatly increase confidence between employer and employe, and the decision of such a Board would, in nearly every case, be accepted.

CO-OPERATION.

CO-OPERATION.

A system of co operation, correctly applied and honestly carried out, will prove to be a great step towards the solution of the labor question, and the long and hard struggle between capital and labor may terminate in the union of both those interests, by their identification.

By the principle of co-operation a share of the profits derived from the labor of the wage-worker, will be assured to him, in addition to his regular daily wages, and in various instances may eventually combine in the wage-worker both employer and employee. Capital and Labor will be brought into closer and friendlier relations, and be made more confidential and sympathetic with each other. Co operation established in this way will secure greater economy in production, and cause better results, as the laborer is as much interested in profitable results as the employer, and consequently will exert himself more in utilizing time, in economy in using raw materials, tools, etc., and in a general way to make the enterprise in which he is engaged a success.

Co-operative associations have been in existence in various countries in Europe many years, and have mostly proved to be successful. In these countries workingmen, on account of extreme low rates of wages, and employers, on account of like small profits, turned to co-operation as a remedy. In America these conditions have heretofore not existed to such an extent, laborers generally receiving satisfactory wages and employers reasonable profits, until the last few years, when a general depression in trade reversed these conditions, and consequently considerable attention has been paid to co-operation.

Strikes and their disastrous results in many instances have directed the attention of both employers and employees to the fact that the money expended and lost by strikes would be a great saving to both, and would, if properly applied in co-operation, cause the employe to finally be his own employer and render him independent.

THE BEVIER EXPERIMENT.

An example of this can be seen in the successful organization and working of the "Co-operative Coal Company" at Bevier, Macon county, Mo., it being partly the result of last summer's coal-miners' strike in those coal fields. This organization combines capital and labor, capital being represented by the owner of three large coal mines, fully equipped for operation, who furnishes the mines and takes part interest in the co-operative association; and labor, by the miners working these mines, who each take shares in the company. These mines are leased by the company for fifty years, at a stipulated annual royalty. The value of each share is \$10, but no stockholder is permitted to own more than ten shares. The affairs of the company are managed by a board of five directors, elected annually, and who serve without compensation. The other officers consist of a president, secretary and treasurer. This company has now agents at all principal points in the Missouri Valley for the sale of its coal, and is reported to be doing an excellent business. It is hoped by all interested in this question, that this may prove to be the forerunner of many similar ones.

The company has been in operation only a few months, and consequently no report of its operation can now be given.

From the "Age of Steel" I quote the following admirable article on co-operation:

A state of war, or at least an armed truce, is the condition under which industry has been pursued throughout the greater part of the last quarter of a century. The antagonism of capital and labor during this period has manifested itself in frequent strikes, and lockouts attended with violence, outrage and coercion, followed by irretrievable loss and inconceivable misery. The injury inflicted, not only on the parties to the contest, but on the community in general by strikes and lockouts, cannot be measured by the loss which they cause, considerable, though, that loss undoubtedly is. The suffering and misery they create must be reckoned in the account against them. The poverty, pauperism and degradation of thousands of families are among the baneful consequences of these cruel and often prolonged contests, and among their victims are to be found the members of industrial firms in startling numbers. But the direct money loss for which these conflicts are responsible is enormous. It has been shown by carefully compiled statistical computations that in the period from 1870 to 1879, inclusive, 2,352 strikes occurred in England, and that the cost to the workmen in the decade was \$134,064,000, or an average yearly loss of \$13,406,400.

The capitalist's or employer's amount of loss in consequence of strikes and lockouts during the same period is estimated at \$20,947, 500, an average of \$2,094,750 per annum. The two sums to the debt of labor and capital consequently amount to the total of \$155,501,150 per annum. The extent and importance of the moral and material damage done by industrial warfare during the last twenty-five years in all parts of the industrial world is almost beyond computation. That it is both costly and demoralizing is universally conceded. It is equally beyond dispute that, so long as the interest of the employer and employed diverge, antagonism and hostility will characterize the pursuit of industry, and the complete and most profitable development of industrial enterprise will be delayed. It is obviously, therefore, to the advantage of all that some means should be found and adopted to make those interests identical by the substitution of some form of equitable divisions of the fruits of labor. To this end co-operation is suggested. Combinations under this title for ministering to the wants of the community have been long in active operation, and have made rapid and successful strides. Co-operation has been classed under three heads: co-operation of capital, co-operation for distribution and co-operation for production. Of the first form of co-operation, nothing need be said at this time. Co-operation for distribution has been eminently successful in England, Scotland and Wales. The progress of this description of co-operation has indeed been marvelous since 1861. Its societies then counted less than 50,000 members, employing a capital of £333,290, and doing £1,512,117 value of trade. The total business done by the workingmen's societies in the last twenty five years has been about £250,000,000, and the net profits upon this business have been about £20,000,000, nearly the whole of which has gone into the pockets of the working classes. We show below the latest obtainable statistics regarding the present condition of co-operation in Great Britain:

TABLE OF CO OPERATIVE SOCIETIES.

	Annual Sales.
1,197 Retail societies.....	£18,000,000
2 Wholesale societies.....	6,000,000
2 Federal corn mills.....	1,300,000
22 Productive (manufacturing).....	220,000
1,228	£25,520,000

At the end of 1883, there were 667,463 members of the co-operative societies in Great Britain, among whom a profit of £2,305,887 was distributed. The principle and progress this movement has made is suggestive of universal extension. Why, it may be asked, has not a system so excellent been more generally adopted in the United States? So far as this country is concerned, the wages of labor have hitherto been so large that workingmen have been pretty well satisfied with their condition, and have not been driven to devise new ways of gaining a livelihood. Another reason is that workingmen everywhere lack confidence in the honesty and fidelity of one another. Many of the co-operative stores in this country have come to grief on account of some faithless treasurer. Another reason may be summed up in the statement that "every man wants to be boss."

It is only when we come to consider co-operative production that we find the relations between labor and capital brought to a prominent position. The theory of association of workmen for production has among its advocates many of the most eminent political economists and philanthropists of this generation, Thomas Hughes, Prof. T. Rogers, Prof. Cairns, John Stuart Mill, Lord Derby, Mr. Thomas Brassey, Earl of Shaftsbury, and others equally well known. Lord Derby declares that the experiment of co-operation promises well, and ought to be fairly tried, and argues that the principle is not discredited by the failures hitherto encountered in its practical working, inasmuch as almost every other great principle has been brought into operation through just such repeated failures. Mr. Thomas Brassey, the rich contractor and employer of labor, said, in a recent article on this subject: "I earnestly wish success to the experiment of adopting the co-operative principle to productive industry. It is quite probable that there are some trades and some kinds of business in which it cannot be brought about at all; but it seems to me that it is in this direction that the efforts of the best workers and the ideas of the best thinkers are tending, and we are not to be disappointed because we do not hit at once upon the best way of doing what has never been done before." Prof. Cairns also, who was unquestionably one of the ablest of modern political economists said, "co-operation constitutes the one and only solution of our present problem, the sole path by which the laboring classes as a whole, or even in any large number, can emerge from their condition of hand to mouth living, to share in the gains and honors of advancing civilization."

The introduction of the co-operative movement in society was necessarily slow, as it involved great changes in existing social conditions. The first efforts in this direction were made on the "co-operative distributive" plan in the early part of the present century, and in-

roduced in England and France, and not until the year 1840, was any prominence attached to co-operative productions. In that year, M. Louis Blanc, of France, published a work—"L'organisation du Travail"—in which he proposes the establishment of social factories, to be governed by regulations established by legislative enactments, or in other words, to be under government control. This work gave a new and decided impetus to the co-operative movement, but it was not until after 1860 that co-operative productive societies were organized.

The co-operative movement is attracting greater attention now than heretofore, and especially so in States in which the manufacturing interests are greatest.

May 12th, 1885, the Legislature of the State of Massachusetts, desirous to procure all the information possible on this subject, passed the following resolution :

Resolved, That the Chief of the Bureau of Statistics of Labor be and he is hereby instructed to prepare and publish for distribution a pamphlet descriptive of the history, methods and present condition of co-operative distribution in Great Britain; and he may expend in the preparation and publication of the same a sum not exceeding eighteen hundred dollars.

Approved May 12, 1885.

In compliance with this resolution, the Hon. Carroll D. Wright, Chief of the Bureau of Statistics of Labor for Massachusetts, and at present Chief of the National Bureau of Labor, prepared a "Manual of distributive co-operation," from which, by permission, extracts and tables are hereby presented : * * *

At the beginning of the present century the condition of the common people attracted the attention of certain social philosophers who, seeing the misery that often existed among the working classes, endeavored to devise some scheme for the reconstruction of society upon more favorable conditions. Among these social reformers Saint Simon and Fourier, in France, and Robert Owen, in England, each in his own way, hoped to re-create society upon an ideal basis by a sudden and radical change from existing conditions. It is now seen that it is only by gradual steps that society advances, and that numberless influences and the slow progress of years are necessary to effect important social changes. Therefore, it is not surprising that none of these schemes succeeded, although some of them were, in their day, exceedingly attractive.

The influence of Robert Owen upon the co-operative movement in England was immediate and important. He has, indeed, been credited

with the origin of the term co-operation as applied to industry. "In no literature," says Holyoake, "before the active days of this social devisor, does any trace of this new industrial shibboleth, co-operation, appear." "The principles of co-operation were first put together and clearly stated by Mr. Owen in his earliest writings."

But by co-operation, Owen meant a communistic organization of society for the mutual benefit of all. Between 1820 and 1830, great enthusiasm was aroused in England in this direction, having its practical outcome in the establishment of communities upon the co-operative plan. The first newspaper organ devoted to the theories then in vogue was the *Economist* in 1822, although Owen and others more or less inspired by him had previously published pamphlets unfolding their plans for social improvement. William Thompson, in 1827, produced a little work called "Labor Rewarded," in which he aimed to set forth a scheme for a more just distribution to labor of its share of product, and presented directions for the establishment of co-operative companies. Later the Combes and Robert Dale Owen, among others, aided the movement with their pens.

Not entirely unfamiliar with the theory of co-operation were the weavers of Rochdale, twenty-eight of whom, massing their meagre capital of £1 each, were to engage in a scheme of co-operative distribution upon a plan so practical and with an energy so determined as to carry the assurance of success. Under the name of "The Rochdale Pioneers," these weavers secured quarters in an old weavers' shop in Toad Lane, Rochdale, and, with the limited stock of groceries purchasable with their united capital of £28, began business in 1844. The insignificant character of their enterprise provoked the ridicule of the public.

"When the day and hour for commencing business arrived, the little party assembled within to take part in the ceremony were abashed at the largeness of the crowd assembled to witness it. Some delay took place before any one could muster up courage to take down the shutters, and when at last the 'store' and its contents were exposed to public view, all Toad Lane was in a roar. Loud and long were the shouts of derision that rose from a host of 'doffers,' a species of street boys peculiar to the clothing districts, who, set on by persons who ought to have known better, stared through the windows or blocked up the doorway, evincing their characteristically precocious sense of the ridiculous by the nature of their comments on the modest display of the 'owd weavers' shop.'"

But success, instant and unmistakable, overcame ridicule. Not long were these twenty-eight weavers left unsupported in their effort to sup-

port themselves with groceries free from the adulterations and imperfections found in those furnished at the ordinary shops, and, at the same time, divided among themselves the profits accruing from their sale. A scheme so practical, conferring benefits so great, at once attracted new members. The next year the association numbered seventy-four, and the joint capital rose to £181. The whole story of their progress is most eloquently told by statistics, and we therefore present it in that form, availing ourselves of the following table :

STATISTICS OF THE ROCHDALE EQUITABLE PIONEERS.

Year.	Number of members.	Funds.	Business done.	Profits.
1844.....	23	£28		
1845.....	74	181	£710	£22
1846.....	80	252	1,146	80
1847.....	110	286	1,924	72
1848.....	140	397	2,276	117
1849.....	390	1,193	6,611	561
1850.....	600	2,299	13,179	880
1851.....	630	2,785	17,638	990
1852.....	680	3,471	16,352	1,206
1853.....	720	5,848	22,760	1,674
1854.....	900	7,172	33,364	1,763
1855.....	1,400	11,032	44,902	3,106
1856.....	1,600	12,920	63,197	3,921
1857.....	1,850	15,142	79,788	5,470
1858.....	1,950	18,160	71,680	6,284
1859.....	2,703	27,060	104,012	10,739
1860.....	3,450	37,710	152,063	15,906
1861.....	3,900	42,925	176,206	18,020
1862.....	3,501	38,465	141,074	17,564
1863.....	4,013	49,361	158,632	19,671
1864.....	4,747	62,105	174,937	22,717
1865.....	5,326	78,778	196,234	25,156
1866.....	6,246	99,989	249,122	31,931
1867.....	6,823	128,435	284,910	41,619

Not only did the business expand financially, but its scope was broadened. The original stock in trade was confined to the leading staple groceries, such as flour, oatmeal, sugar and butter. The following table shows the departments afterward added and the date of opening each:

Departments.	Date of opening.
Linen and woollen drapery.....	1847
Butchering.....	1850
Shoe and clog making.....	1852
Tailoring	1852
Coal dealing.....	
Baking.....	1867

Ten or more branch stores are now carried on in the town of Rochdale, and extensive premises owned by the association have taken the place of the old weavers' shop of 1844.

From the first, part of the profits were set aside for educational purposes, and an extensive library and liberally equipped reading room are now maintained.

The following statement exhibits the condition of the association in 1884, and when contrasted with its humble origin is itself a striking justification of the principles upon which the business has been managed:

MEMBERS.	
Number of members, December 31, 1884.....	11,161
LIABILITIES.	
Share capital, December 31, 1884.....	£329,470
Loan capital, December 31, 1884.....	£14,561
Reserve fund, December 31, 1884.....	£2,605
ASSETS.	
Value of saleable stock, December 31, 1884.....	£28,593
Value of land and buildings and fixed stock, December 31, 1884.....	£53,412
Investments, December 31, 1884.....	£242,432

TRADE AND PROFITS.

Received for goods sold during 1884.....	£262,270
Total net profit made during 1884....	£36,992
Average dividend paid per £.....	2s. 9½d.
Applied to educational purposes during 1884.....	£920
Applied to charitable purposes during 1884.....	£118
Subscriptions to Central Board.....	£46 0s. 10d.

The Rochdale store was not the first to engage in co operative trade, as we have already shown, nor was it the first to divide profits on sales. But whether the time was more propitious or the character of its founders more favorable to success, it became, unlike its predecessors, true to its name, the pioneer of the distributive associations now numbered by hundreds in Great Britain. Unlike the joint stock companies the cardinal principles of co-operative distribution were observed by them:—*All profits to be divided on purchases, and all purchasing members to be made shareholders with a fixed interest on the capital invested. The cash system to be strictly adhered to.*

In 1857, Mr. Holyoake published his "History of Co-operation in Rochdale," a work which was widely read, and thus exerted in important educational influence in behalf of co-operative progress.

In 1862 the number of societies in Great Britain was estimated at 450; their estimated membership being 90,000; their share and loan capital, £450,000; their annual sales, £2,350,000; and their profits, £166,000. In this year parliamentary returns were first made to the Registrar, and thereafter annual statistical statements were presented.

The Industrial and Provident Societies Act of 1862 gave co-operative societies a corporate existence, and permitted one society to hold shares in another. This gave the requisite legal basis for the formation of co operative wholesale societies, which are federative associations, their capital being in shares held by the societies composing the confederation. Such an institution had long been needed to render the independence of the retail stores more complete, to allow them to disregard the jealousy of rival traders who exerted their influence against them with private wholesale dealers, to enable them to secure supplies of undoubted purity, and, while utilizing the surplus capital accumulating in their hands, to permit them to save to themselves, the profit arising in the wholesale trade.

CO-OPERATION IN ENGLAND AND WALES—1872-1883.

CLASSIFICATION.	1872.	1883.	Percentage of Increase.
Societies making returns.....	749	870	16.2
Number of members.....	301,157	576,477	91.4
Capital, share and loan.....	£3,131,474	£8,037,546	156.6
Sales.....	11,397,225	23,583,503	106.9
Profits	809,237	1,926,488	138.0
Devoted to education.....	5,097	14,869	197.7

CO-OPERATION IN SCOTLAND—1872-1883.

CLASSIFICATION.	1872.	1883.	Percentage of Increase.
Societies making returns.....	178	275	54.4
Number of members.....	38,829	102,817	164.7
Capital, share and loan.....	£208,815	£945,834	352.9
Sales.....	1,595,120	4,482,306	181.0
Profits	126,314	390,662	209.2
Devoted to education.....	235	885	276.5

CO-OPERATION IN IRELAND—1872-1883.

CLASSIFICATION.	1872.	1883.	Percentage of Increase.
Societies making returns.....	8	8	.....
Number of members.....	564	871	54.4
Capital, share and loan.....	£1,825	£8,810	382.7
Sales.....	19,775	23,501	18.8
Profits.....	1,164	1,782	53.0
Devoted to education.....	.....	.....	.....

These tables show in England and Wales, from 1872 to 1883, an increase of 16.2 per cent. in number of societies and 91.4 per cent. in membership. Capital increased 156.6 per cent.; sales 106.9 per cent., and profits 138.0 per cent. The rate of progress in Scotland, it appears, is greater than that in England and Wales, the increase in societies in that country being 54.4 per cent.; in membership 164.7 per cent.; in capital 352.9 per cent.; in sales 181.0 per cent.; and in profits 209.2 per cent. The progress in Ireland is comparatively slight.

It has been estimated that the membership of the societies must be quadrupled if we would arrive at the total population connected with the movement. This would give a total of 2,720,660 for the year 1883. In the northwest of England, especially, the movement has great strength, and it has been stated that in this section at least one-fourth of the population in the larger towns procure their supplies from co operative stores, and that this is true also of the entire counties of Durham and Northumberland.

It is interesting to note that the average amount of sales to each member, which in 1862 was £25.83, has in 1883 become £41.31. The ratio of expenses to members has considerably increased also, the average in 1862 being £1.41 to each member, and in 1883, £2.54. The average net profit to each member has nearly doubled, it being £1.83 in 1862 and £3.41 in 1883. The percentage of net profit upon share and loan capital was 34.2+ in 1862, and 27.7+ in 1883.

CO-OPERATIVE PRODUCTION IN GREAT BRITAIN.

CO-OPERATIVE PRODUCTIVE SOCIETIES.

Name.	Date established.	Business.	Yearly sales....	Yearly profits..	Method of dividing profits.
Arnold Manufacturing.....	1868	Hosiery.....	£ 200	£	Between shareholders and workers.
Airedale Manufacturing.....	1872	Alpacas, cords, etc.....	5,799	427	Between shareholders, customers and workers.
Cobden Mills.....	1867	Calicoes.....	52,264	.....	Between shareholders and workers.
Coventry Watchmakers.....	1876	Watches.....	2,623	273	Between shareholders, customers and workers.
Co-operative Printers.....	1869	Printers and stationers.....	33,589	2,780	Between shareholders, customers and workers.
Dudley Nailmakers.....	1874	Nailmakers.....	1,212	83	Between shareholders and workers.
Dunfermline Manufacturing.....	1872	Damask table linen.....	1,672	67	No details.
Eccles Manufacturing.....	1861	Quilts and toilet covers.....	9,767	1,068	Between shareholders and workers.
Edinburgh Printers.....	1873	Printers and stationers.....	3,027	236	No details.
Framemakers, and Gilders, London.	1868	Carvers, gilders, and general decorators.....	6,389	.....	Between shareholders and workers.
Hebden Bridge Manufacturing.....	1870	Fustian cutters, etc.....	22,103	1,980	Between shareholders, customers and workers.

Howley Park Quarry.....	1872 Stoneworkers.....	3,624	500 No details.
Lancashire and Yorkshire Productive	1873 Flannels.....	16,396	43 Between shareholders and customers.
Leek Silk Twist Manufacturing.....	1874 Silk thread.....	2,688	2 No details.
Leicester Manufacturing.....	1876 Hosiery.....	6,273	133 Between shareholders, customers and work- ers.
Leicester Elastic Web.....	1878 Web weavers.....	4,493	129 No details.
Sheepshed Manufacturing.....	1881 Hosiery.....	92	..... Between shareholders and workers.
Sheffield Cutlery Manufacturing.....	1873 Knives and scissors.....	439	69 No details.
Sheffield Haft and Scale cutting.....	1876 Haft makers.....	3,906	125 No details.
Paisley Manufacturing.....	1861 Plaids, shawls, etc.....	11,891	568 Between shareholders, customers and work- ers.
Northamptonshire Productive.....	1881 Bootmakers.....	1,662	128 Between shareholders and workers.
Walsall Manufacturing.....	1874 Lockmakers.....	3,986	..... No details.

CO-OPERATION IN FRANCE.

The social hopes fostered in France by the political revolution of 1848 were partly realized in the formation of large numbers of co-operative societies. The enthusiasm of the moment and the influence of government patronage stimulated the movement, but few possessed sufficient vitality to long survive. The re-establishment of the empire in 1852 was an event at first decidedly unfavorable to their progress, but in 1864 co-operation at Paris once more revived, and later was assisted by favorable legislation. In 1870, twenty workmen's co-operative societies engaged in production existed at Paris, and at present there are more than seventy such societies. Outside of Paris, few such societies exist.

The following details are tabulated from statistics published by the Bureau des Associations Professionnelles :

THE CO-OPERATIVE

Name of the Association.		Date of Formation.
French.	English.	
1 Appariels a gaz (Ouvriers fabricants d').....	Working gas apparatus makers	
2 Arconnieurs ferreurs.....	Saddle bow binders....	July 1, 1881.....
3 Batiment (Societe generale du).....	Builders.....	Jan. 24, 1882.....
4 Bijoutiers en dore (Association des)	Different kinds of jewellers.....	Dec. 26, 1882.....
5 Bijoutiers en double (Association des)		January, 1882...
6 Bijoutiers joailliers (Association des)		July 27, 1882.....
7 Chapeliers (Association generale ouvriers).....	Working hat makers....	Dec. 12, 1883.....
8 Charrons (Association collective des)	Wheelwrights	Oct. 26, 1883.....
9 Charpentiers de la Seine (Association des).....	Working carpenters	Feb. 18, 1881.....
10 Charpentiers de la Villette (Association des).....		Nov. 21, 1881....
11 Cimentiers (Association generale des ouvriers)	Working cement makers.....	Aug. 22, 1881....
12 Cimentiers (Societe des ouvriers reunis).....		Sept. 25, 1884....
13 Cochers (La nouvelle association des)	Coachmen or cab drivers	March 21, 1883...
14 Cochers (L'Esperance Association des).....		Feb. 9, 1884.....
15 Cochers (Association des).....		Dec. 9, 1874.....
16 Cochers (L'union des).....		Dec. 1, 1873.....
17 Cochers (L'Alliance des).....		Feb. 12, 1882.....
18 Cochers (La Parisienne, Association des).....		Oct. 1, 1879.....
19 Cochers (La Moderne, Association des).....		Oct. 1, 1881.....
20 Cochers (La Montrougiennne, Association des)		Nov. 30, 1881....
21 Cochers (Le Progres, Association des)		March 21, 1883...
22 Couvreurs, plombiers, zingueurs,	Slaters, plumbers and zinc workers	Aug. 27, 1883....

SOCIETIES OF PARIS.

Capital.		Number of Asso- ciates.	Whether Auxiliaries Share in Profits.		Value of work done.
Subscribed.	Paid up.		No.	Yes.	
£ s.	£ s.				£ s.
.....	.....	15	.....	.....	..... 1
180 0	150 0	7	No.	.....	3,400 0 2
20,000 0	5,000 0	191	No.	.....	8,000 0 3
816 0	700 0	12	.....	Yes.	4,480 0 4
1,000 0	1,000 0	160	No.	.....	1,440 0 5
1,800 0	840 0	26	No.	.....	..... 6
400 0	280 0	88	.....	Yes.	640 0 7
400 0	162 17	23	No.	.....	1,626 10 8
606 0	491 16	40	No.	.....	24,000 0 9
3,200 0	3,200 0	183	No.	.....	40,000 0 10
240 0	282 0	17	No.	.....	16,280 0 11
320 0	320 0	11	No.	.....	1,200 0 12
1,760 0	1,080 0	73	No.	.....	16,000 0 13
3,280 0	2,765 19	41	.....	Yes.	16,457 8 14
24,000 0	18,504 10	102	No.	.....	120,000 0 15
14,200 0	14,200 0	129	.....	Yes.	..... 16
6,080 0	10,000 0	105	No.	.....	..... 17
6,880 0	5,600 0	43	No.	.....	..... 18
8,640 0	7,800 0	54	No.	.....	..... 19
9,600 0	7,726 0	60	.....	Yes.	..... 20
1,760 0	880 0	73	No.	.....	..... 21
800 0	720 0	27	.....	Yes.	6,000 0 22

THE CO-OPERATIVE

Name of the Association.		Date of Formation.
French.	English.	
23 Ebinistes (L'Avenir, Association des)	Cabinet makers.....	Aug. 24, 1879....
24 Ebenisterie Parisienne (L)		Nov. 30, 1881....
25 Ebenisterie (Association de l')....		June 30, 1884....
26 Ebenistes (Societe generale francaise d'ameublement)		April 14, 1884....
27 Ebenisterie (Association syndic des)		July 24, 1884....
28 Facteurs d'anches.....	Reedmakers.....	Dec. 1, 1865....
29 Facteurs de pianos (Association des)	Pianoforte makers....	1849....
30 Facteurs de pianos L'Union, Association des)		April 15, 1882....
31 Facteurs d'instruments de musique..	Musical instrument makers.....	1865....
32 Ferblantiers, lanternes, compteurs..	Tinworkers, lantern and meter makers }	July, 1868.....
* 33 Ferblantiers-boitiers (Association des).....		
34 Formiets (Association des).....	Tin box makers.....	March, 1875....
35 Horologers (Societe anonyme des....	Model makers.....	Nov. 17, 1849....
36 Imprimerie nouvelle (association de l')	Watchmakers.....	Aug. 8, 1882....
37 Jardiniers (Association co-operative des).....	Printers.....	Nov. 12, 1869....
38 Joailliers bijoutiers a facon.....	Gardeners	March 16, 1881....
39 Journal Officiel (Association co-operation du).....	Jewellers .....	.....
40 Limes (Association des ouvriers en)	Newspaper publishers	Feb. 5, 1881....
41 Lithographes de Paris (Association des).....	Working file makers...	Sept. 27, 1848....
42 Lunetiers (Societe des).....	Parisian lithographers	March, 1866....
43 Macons et tailleurs de Pierre (L'union des ouvriers).....	Spectacle makers.....	Aug. 6, 1849....
44 Menuisiers et batiments.....	Working masons and stone cutters.....	March, 1885....
45 Menuisiers d'art et batiments.....		Feb. 21, 1884....
46 Menuisiers en sieges.....		March 27, 1884..
47 Menuisiers en voitures.....		Nov. 16, 1848....
	Different kinds of joiners .....	.....

SOCIETIES OF PARIS.

Capital.		Number of Associates.	Whether Auxiliaries Share in Profits.		Value of work done.
Subscribed.	Paid up.		No.	Yes.	
£ 1,020 0	£ 740 0	48	No.	.....	20,000 0 23
2,800 0	1,400 0	130	.....	.....	2,800 0 24
760 0	240 0	19	.....	Yes.	..... 25
320 0	180 0	10	.....	Yes.	4,400 0 26
320 0	320 0	125	.....	Yes.	7,000 0 27
700 0	80 0	7	No.	.....	40,000 0 28
10,448 0	10,448 0	18	No.	.....	240,000 0 29
540 0	625 11	6	.....	.....	6,400 0 30
7,760 0	6,520 0	17	No.	.....	92,000 0 31
8,480 0	6,000 0	106	No.	.....	140,000 0 32
3,680 0	2,800 0	39	.....	.....	160,000 0 33
2,320 0	1,545 14	12	No.	.....	102,000 0 34
640 0	393 12	20	No.	.....	3,240 0 35
8,000 0	8,000 0	1,348	No.	.....	160,000 0 36
600 0	312 0	30	.....	Yes.	548 0 37
.....	.....	.....	.....	.....	..... 38
224 0	224 0	28	.....	Yes.	88,000 0 39
8,400 0	6,890 17	21	No.	.....	194,640 0 40
20,000 0	20,000 0	250	.....	.....	120,360 0 41
89,600 0	53,262 10	112	No.	.....	1,200,000 0 42
400 0	900 0	15	.....	Yes.	..... 43
420 0	245 7	7	.....	Yes.	1,235 10 44
240 0	240 0	12	.....	Yes.	2,640 0 45
64 0	64 0	16	No.	.....	306,911 4 46
.....	.....	.....	.....	.....	..... 47

THE CO-OPERATIVE

Name of the Association.		Date of Formation.
French.	English.	
48 <i>Moniteur des Syndicats ouvrier</i>	Trades-Union News-papers.....	Nov. 4, 1882....
49 Opticiens (Association generale des ouvriers).....	Working opticians....	Dec. 25, 1864....
50 Orfevrerie (Association ouvrier d')..	Working goldsmiths...	Sept. 21, 1881....
51 Papetiers regleurs (Association des)	Ruled-paper makers...	May 1, 1883.....
52 Parqueteurs (Societe co-operative	Inlaid floor makers	Oct. 22, 1881....
53 Parqueteurs (Association d'ouvriers)		Dec. 3, 1883.....
54 Parqueteurs (Association Parisienne des).....		Aug. 7, 1884.....
55 Passémentiers (Association des ouvriers).....	Working lace makers..	Dec. 16, 1884....
56 Paveurs (Association generale d'ouvriers).....	Working pavers.....	Feb. 11, 1883....
57 Paveurs (Association de).....		Feb. 17, 1883....
58 Peintres en baliment (Travail des)...	House painters.....	Dec. 27, 1882....
59 Peintres en batiment (L'union des)...		May 7, 1883.....
60 Peintres de Paris (La Securite de)...		Feb. 10, 1885....
61 Restaurateurs (Societe co-operative des).....	Co-operative restaurant.....	.....
62 Sacs de dames et de voyage.....	Makers of ladies' and travellers' bags.....	.....
63 Sculpteurs de Paris (L'union des)....	Sculptors.....	.....
64 Sculpture (Association co-operative de la).....		.....
65 Sellerie Parisienne (Association de la)	Saddlers.....	Feb. 4, 1883....
66 Serruriers en meubles.....	Furniture locksmiths..	Feb. 19, 1850....
67 Tailleurs (Association generale des)...	Tailors.....	Oct. 15, 1863....
68 Tailleurs de limes.....	File cutters.....	Dec. 24, 1868....
69 Terrassiers de la Seine.....	Terrace makers.....	Jan. 1, 1885....
70 Tapissiers (Association d'ouvriers)...	Working upholsterers..	Feb. 27, 1884....
71 Typographes (Association la co-operation des).....	Typographers.....	Dec. 26, 1881....

SOCIETIES OF PARIS—CONTINUED.

Capital.		Number of Associ- ation.	Whether Auxiliaries Share in Profits.		Value of work done.
Subscribed.	Paid up.		No.	Yes.	
£ 1,000 0	£ 600 0	39	.....	.....	1,240 0 48
4,800 0	2,800 0	5	No.	.....	64,000 0 49
2,000 0	1,060 0	116	No.	.....	600 0 50
2,400 0	365 4	6	No.	.....	1,600 0 51
200 0	192 4	12	No.	.....	13,374 6 52
120 0	67 9	6	.....	Yes.	4,000 0 53
120 0	24 0	9	.....	.....	7,000 0 54
600 0	84 0	.....	.....	.....	200 0 55
6,440 0	660 0	.....	No.	.....	15,200 0 56
1,440 0	1,460 0	.....	No.	.....	20,000 0 57
800 0	536 0	.....	.....	Yes.	11,200 0 58
816 0	579 16	13	.....	Yes.	5,520 0 59
280 0	28 0	7	.....	Yes.	..... 60
.....	.....	.....	.....	.....	..... 61
980 0	440 0	10	.....	Yes.	10,000 0 62
.....	.....	.....	.....	.....	..... 63
.....	.....	.....	.....	.....	..... 64
880 0	520 0	117	No.	.....	8,000 0 65
120 0	120 0	5	.....	Yes.	4,560 0 66
4,000 0	6,820 0	180	No.	.....	200,000 0 67
540 0	540 0	6	.....	Yes.	16,000 0 68
80 0	8 0	6	.....	.....	..... 69
294 0	202 12	96	.....	.....	1,600 0 70
400 0	360 0	24	.....	.....	4,185 2 71

THE CO-OPERATIVE

Name of the Association.		Date of Formation.
French.	English.	
72 Vanniers (Association co-operation des ouvriers).....	Working basketmakers	March 1, 1882....
73 Societe co-operative immobiliere....	Society for loans on realty.....	Dec. 15, 1867....
74 Societe co-operative (Construction des maisons ouvrieries).....	Co-operative building society.....	.....

SOCIETIES OF PARIS—CONTINUED.

Capital.		Number of Asso- ciates.	Whether Auxiliaies Share in Profits		Value of work done.
Subscribed.	Paid up.		No.	Yes.	
£ 80 0	£ 64 0	18	No.	.....	1,080 072
5,600 0	5,600 0	369	No.	.....	19,200 073
.....	.....	.....	.....	.....	74

CO-OPERATION IN GERMANY.

German co-operation has three modes of development, viz.: People's banks, consumers' societies, and trade societies. Of these the people's banks—a form of co-operative savings bank,—are the most numerous, the trade societies ranking next. In 1883, the number of each class was as follows: People's banks, 1,910; trade societies, 1,031; consumers' societies, 676.

The trade societies so called include two classes, industrial societies and agricultural societies. These may be more minutely classified as follows:

INDUSTRIAL SOCIETIES.	
Raw material supply.....	145
Magazines.....	59
Productive.....	149
AGRICULTURAL SOCIETIES.	
Agricultural consumers' supply.....	305
Implement supply and stock raising.....	171
Productive agriculture.....	198

Total industrial societies 353; total agricultural societies, 674; societies not included under the foregoing heads, 4; aggregate, 1,031.

The co-operative movement in Germany began with the raw material supply associations founded by Schulze-Delitzsch, for the purpose of enabling handicraftsmen in different trades to purchase by wholesale the materials required in the prosecution of their industries so as to allow them to compete with extensive manufacturers. The object of these societies was to uphold hand labor against the encroachments of factory industry, by thus obtaining for handworkers through association the advantages possessed by capitalists, and to deliver them from middlemen who furnished inferior material at high prices.

"Where the raw material societies have organized themselves according to the advice of Schulze Delitzsch, and avoided the errors against which he over and over again warned them, they have accomplished this object to the benefit of the German handwork, and preserved to many German handicraftsmen their independent businesses. If we consider that, according to the trade statistics of 1882, there were in the shoemaking trade alone 245,118 independent handworkers, who,

in spite of the prophecies uttered more than 20 years since by Ferdinand Lassalle and Karl Marx, still carry on the shoemaking business on their own account and will not consent to be wage-receivers, we cannot close our eyes to the fact that millions of Germans have the most pressing interest in the preservation of handicrafts. * * *

The raw material societies of the handworkers could have given greater help in this contest if several of them had not ruined themselves by grave mistakes, because, unfortunately, the bad custom of the handworker giving credit—sometimes long credit—to his customers, without any compensation, is widely spread in Germany. The workers often demanded of the raw material societies to sell to them on credit at the same price as if they had paid ready money. Many societies have given way to this unjustifiable claim, and sunk under the consequent loss of capital and interest. Hence the number of raw material societies is not increasing."

The 145 raw material societies included the following trades: Joiners and instrument makers, 21; spinners and weavers, 17; meal and bread producers, 14; printers and lithographers, 11; tailors, 10; brewers, 7; butchers, 7; carpenters and masons, 6; cigar makers, 6; clock and watch makers, distillers, metal workers, and shoemakers, 5 each; machinists and sugar makers, 4 each; gilders and potters, 3 each; brush and comb makers, miners, personal services, and sewing machine makers, 2 each; bookbinders, glass makers, plumbers and lacquerers, and starch makers, 1 each.

The industrial magazines are co-operative commission concerns whose business it is to sell at a common magazine or depot the goods produced by their members. The larger number are engaged in the sale of carpenters and joiners' products.

The industrial productive societies are mainly confined to hand labor and to the smaller industries. A notable exception is that of the largest German manufactory of chronometers, which is conducted on the co operative plan. Co operation when applied to factory labor in Germany has not been very successful.

"Productive societies formed for the purpose of selling their wares to the consumers' societies, and supplied with capital by them exist * * * only as exceptions. A society of this kind was the Berlin Bakers' Society, which long since came to grief through bad management. Most of the productive societies have been founded without any reference to the wants of the consumers' societies, by small groups of artisans or laborers who were all to be at once employers and workers. The business of the society was their only source of income. If anything went wrong with their business, all

the members came into difficulty. This may in many cases have bound all the members together, and steeled their energies, but it tended also to make them indisposed to the admission of new associates, which naturally came into question only when the business was again going on prosperously. The members who had fought through the time of need alone, wished alone to reap the fruits of the good time. This was not associative, and was vigorously opposed by Schulze-Delitzsch, but it was natural, and explains the circumstance that in many old and successful productive societies the number of members is slowly diminishing. In some, though this is not publicly known, the number of members has shrunk to such an extent that they are no longer societies, but have become trading partnerships."

The agricultural co-operative societies appear to be quite successful and are increasing.

The agricultural consumers' supply societies afford their members facilities for purchasing in common seeds, manures, etc., and secure to them the advantage of subjecting to chemical analysis goods offered to them for purchase so as to test the genuineness of the articles. Others, existing among land-owners, known as implement societies, provide agricultural machines owned in common and loaned to members. Still others have for their object the improvement of breeds of cattle, and, finally, the productive agricultural societies are engaged in dairying and wine making.

There exists in Germany a co-operative union founded by Schulze Delitzsch, and, since 1883, a union of the agricultural societies, having for its special object the advancement of this form of co-operation.

CO-OPERATION IN AUSTRIA.

According to the report of Dr. Ziller, who is at the head of the co-operative societies formed in the Austrian empire, the total number of such societies within Austrian territory in 1881 was 1,515. Of these, 317 were unregistered, and 1,198 registered. Five hundred and seventy-two registered societies were with limited liability and 626 unlimited. One thousand one hundred and twenty-nine, or 74.5 per cent. of all the societies, were people's banks; two hundred and thirty-five, or 15.5 per cent. were distributive societies; and the balance were as follows: raw material supply, 6; agricultural material supply, 15; stores, 3; artisan productive, 41; agricultural productive, 61; building, 5; trading, 10; assurance, 2; various, 9. These statistics include Lower and Upper Austria; Lutzburg; the Tyrol; Voralberg; Styria; Carinthia; Krain; the Coast Land; Bohemia; Moravia; Silesia; Galicia; Bukovina, and Dalmatia.

CO-OPERATION IN HUNGARY.

Distributive co-operation in Hungary, although instituted some years ago, has made little progress. Of late slightly more life has been apparent in the movement, but statistics respecting it are very scanty. The statistical bureau of Hungary has no data upon the subject.

Productive societies are not numerous, the chief examples existing in Buda-Pesth. The chief avenue of co-operative effort is the system of banking analogous to that of Germany.

Dr. Ziller, of the Austrian Co operative Union, has presented the following statistics for the societies in Hungary, Croatia and Slavonia, in the year 1883: Total number of societies, 357; people's banks, 308; consumers' societies, 16; raw material supply, 2; depots (for selling), 3; agricultural aid societies, 2; artisans' productive societies, 6; agricultural productive societies, 7; assurance societies, 8; miscellaneous, 5.

CO-OPERATION IN ITALY.

The co operative movement in Italy began with the political unification of the country, as part of the general progress of the time. People's banks upon substantially the German model were among the first, and are to-day leading examples of Italian co operative effort. They have increased from four in 1865 to 252 in 1883, the capital in the latter year being about £2,120,000. They have been very successful, and of great benefit to certain classes, chiefly the middle class traders and artisans, but have not materially aided laborers, or the masses of the working population. Other forms of co-operative credit and savings institutions are in progress or contemplated, among others the following:

"A certain number of small agriculturists, generally the very smallest proprietors or farmers, unite themselves into a society with unlimited liability. On this guarantee the society contracts loans at the lowest attainable rate of interest, and out of the sum thus collected makes advances to their members who apply for them, at a somewhat higher rate. The bank is to act also as a savings bank. These institutions are specially agricultural, and satisfy the need for small advances, at long periods of repayment, keenly felt by a class of agriculturists numerous in the Italian provinces, that of the small proprietors who cultivate their own land, of the small farmers, and also, in certain

cases, of the agricultural laborers, who sometimes cultivate a field on their own account."

With these banks agricultural clubs are sometimes united.

Productive co-operation is limited to a few societies, and, although some success is to be noted, is still in the experimental stage. The oldest and most important society is the Artistic Glass Society of Altare, founded in 1856, and for a time subjected to government opposition. Its original capital was only 14,385 lire, about £463, but the members by carrying to capital monthly instalments of their wages increased it rapidly until, in 1883, it amounted to about £16,639. The value of product in the latter year was about £21,196.

The Co-operative Labor Society at Ismola, manufacturing earthenware and kitchen utensils, was founded in 1874 by Guisppe Bucci, who gave up to his workmen his own establishment, for which they paid him by instalments. It has been reasonably successful.

In Bologna there are six productive societies engaged in hemp dressing, shoemaking, building and woodworking, leather cutting, glove making, and printing. They are all small, but are said to be exerting a good influence. At Milan, there is a co-operative society of marble workers, and one of laundresses; at Bandeno, one of weavers; at Schio, one engaged in railway and tramway construction, and at Turin, one of working tailors, dressmakers and seamstresses.

The customary division of profits is between the shareholders and workers. At Altare and Ismola three per cent. is first paid to the shareholders, and of the remaining profit 30 per cent. is carried to a reserved fund; 25 per cent. to a subsidy fund; 30 per cent. to shareholders, and 15 per cent. to workers in proportion to the number of days each has worked. Members must become shareholders within four years or leave the society, a requirement that eliminates the thriftless and undeserving.

Another form of productive co-operation in Italy should be noticed—the co-operative associations of day laborers. These arose among the agricultural workers of Romagna, and they had in view the emancipation of field laborers from the power of contractors whose custom it was to control every extensive operation in road making, earthwork, etc.; farming out the work to sub-contractors and reducing wages to the lowest point so as to swell profits to themselves without regard to the rights of the laborers dependent upon them. The work, it will be seen, is very simple, requiring little capital and limited skill, thus rendering it easy of performance upon the co-operative plan. The meagre capital required was readily obtained by savings from wages, the par value of shares being placed at a low figure. Almost the only

outlay required was for pickaxes, barrows, etc., and in many cases these were already possessed by the workmen. The plan of operation was simple. Large contracts are taken by the society at fixed rates, and sublet in sections to members, who work by the piece. By this plan individual remuneration is in proportion to the work performed. The workers became directly interested in the work and their efficiency is proportionately increased. The middleman is abolished, and the laborer is brought into immediate relations with the proprietor who controls the undertaking. Under these advantages men who previously earned from 7½d. to 1s. 2½d. a day, have increased their wages to 2s. 5d., and in some cases to 3s. 2½d. or 4s. daily. The first association of this sort, founded at Ravenna with 300 members, grew to membership of 3,000 within a year. Others upon the same plan are working well.

CO-OPERATION IN THE NETHERLANDS.

Co-operative societies in the Netherlands have a legal sanction in the statute of November 17, 1876, and, although a few societies had been founded previously, the progress of the movement rests upon this statute.

The General Dutchmen's Union (*Het Algemeen Nederlandch Werkliedenverbond*) and the Society for Self Help (*Vereeniging Eigen Hulp*) are corporations founded for the purpose of promoting co-operative societies and extending co-operative principles. The first has its headquarters at Amsterdam, and the later at the Hague. Both maintain newspaper organs.

The following co-operative societies have been established since 1876:

Co-operative savings and advancing banks.....	8
Consumer's societies.....	23
Co-operative bakeries.....	2
Co-operative butchering establishment.....	1
Building societies.....	13
Agricultural societies.....	3
Society for managing funerals (undertakers).....	1
Total.....	51

Divisions of the Workmen's Union exist in several towns and have founded small associations administered under domestic rules and not incorporated. The co-operative savings and advancing banks are located at Amsterdam, the Hague, Leeuwarden, Middleburg, Goes, Enschede and Veendam.

Most of the consumers' societies are upon the limited liability plan. The cash system is generally adhered to. Some sell only to members at as low rates as possible. Others sell to every one and divide profits among members yearly in proportion to consumption, allowing undrawn dividends to remain on interest.

The two co-operative bakeries enumerated are in successful operation at the Hague and at Koog aan de Zaan (North Holland) respectively. At the Hague, members upon joining pay 1s. 8d. In April, 1885, the society had 1,050 members. Dividends are paid in bread during the year as demanded, each member's dividend being in proportion to his consumption during the previous year. At Koog, the yearly surplus is divided among widows of deceased members upon the basis of the consumption of the recipient during the previous year.

The agricultural societies conduct the business of transporting and selling farm produce for the common account of members, in foreign and native markets; besides which one society has a productive character.

THE ARLINGTON CO-OPERATIVE ASSOCIATION, AT LAWRENCE, MASS.

[From the Manual of Distributive Co-operation by Carroll D. Wright.]

Distributive co-operation in the United States has been tried upon various plans, notably under the patronage of the Sovereigns of Industry, Patrons of Husbandry, Knights of Labor, and similar organizations. Being in most instances incidental only to the main purpose of such orders, the fate of these distributive stores has usually been determined by the success or failure of the primary objects of the organization.

In Texas a co-operative wholesale society and about 150 retail stores are in existence in connection with the order of Patrons of Husbandry.* Isolated experiments, not successful, have been made in New York City and in Brooklyn. The Arlington Co-operative Association, at Lawrence, Mass., however, furnishes an example of successful American distributive co-operation on substantially the Rochdale plan.

* J. B. Long, Rusk, Texas.

The association is limited to employes of the Arlington mills. In this feature of limitation the plan of the English stores is not adhered to, as membership in the latter is not restricted. Officers are elected annually, consisting of a secretary, treasurer, and ten directors, one of whom is chosen president by the board, and regular quarterly meetings are held. Special meetings may be called by the president with the consent of a majority of the directors, and must be called upon the written request of ten members. Auditors are chosen annually by the stockholders by ballot. The manager of the store is selected by the directors, and is at present a thoroughly competent person trained in the principles of distributive co-operation in England.

The administration of the society is similar to that of the English societies which we have described. Three members of the board of directors constitute an advisory committee whose duty it is to consult with the manager as to purchases of stock, and to approve all bills before the same are paid by the treasurer. The latter officer is placed under bonds. The manager is held responsible for the correct accounting of stock in trade, makes a daily report of sales and accounts to the treasurer, and takes account of stock quarterly. He gives such bonds as the directors require for the faithful performance of his duties.

Members may hold from one to two hundred shares. The per value of shares is five dollars. Members upon joining pay an initiation fee of fifty cents, all sums so received being carried to the sinking fund, to which fund is also carried not less than ten per cent. of profits annually. Under the rules the sinking fund is to be allowed to accumulate until it shall amount to 30 per cent. in excess of the capital stock. Amounts carried to the sinking fund, and other sums in excess of the business needs of the association, are placed on deposit in the savings bank until sufficient in the aggregate to purchase five shares of Arlington mills' stock, when the deposit, at the discretion of the directors, may be withdrawn and invested in such stock under such provisions as the treasurer of the corporation and the State law may require. "On all certificates of stock thus issued there shall be endorsed the provision that interest shall be paid at the rate of one per cent. less than the average dividend declared by the Arlington corporation for the current year."* This provision as to investments, taken together with the fact that members must be employes of the Arlington corporation, introduces indirectly a productive element.

The cash system is enforced. No intoxicating liquors are sold. Sales are made at the average retail price. Each stockholder has one vote in business meetings. Shares are withdrawable after thirty days'

* By-Laws of the Association.

notice, or if, for any reason, payment is delayed after thirty days upon shares which a member has duly signified his intention to withdraw, such shares may be transferred to any other member who has not already the maximum number of shares to which he is entitled under rules; but no transfer can be made to non-members, unless by the consent of the directors, in writing, signed by the president and secretary, and entered upon the records of the association.

After providing for the sinking fund, interest on capital stock at at the rate of five per cent. annually, and the payment of taxes, profits are divided quarterly in proportion to the purchases of the recipients, non-members sharing at half the rate allowed to members. After one dollar has been paid in on stock subscribed for, the subscriber is entitled to a full dividend. Dividends and interest declared on stock may remain on deposit. Interest on money paid in for shares commences on the first of each month. No interest is paid on shares withdrawn before the end of the quarter. When the undrawn dividends and interest placed to the credit of any person, amount to the par value of one share, interest is declared on the accumulation in the same manner as provided for money paid in for shares, provided that such accumulation, together with the original shares invested, shall not exceed the par value of 200 shares.

The association was incorporated July 8, 1884. Business was begun September 15, 1884, and the first fiscal year was closed October 1, 1885. The average capital for the year, \$3,320, was turned over more than eleven times and thus realized a return of nearly 74 per cent. in less than 13 months.

The following statistical statement from the directors' report exhibits the uniform progress of the association:

PROGRESS OF THE ARLINGTON CO-OPERATIVE ASSOCIATION.

Classification.	Total sales.	Gross profits.	Salaries, expenses and interest.	Net profits.	Profits divided.	Carried to sinking fund.	Interest on capital.	Total return on capital.
First quarter, 15 weeks.....	\$10,828 89	\$1,743 62	\$1,024 93	\$718 69	\$544 54	\$174 15	\$51 13	\$769 82
Second quarter, 13 weeks.....	8,783 92	1,479 52	954 98	524 54	449 44	75 10	40 48	565 02
Third quarter, 13 weeks.....	8,615 01	1,087 15	830 46	256 69	348 58	—91 89*	40 89	297 68
Fourth quarter, 13 weeks.....	9,967 12	1,809 75	1,036 61	773 14	607 42	165 72	40 74	813 88
Totals.....	\$38,194 94	\$6,120 04	\$3,846 98	\$2,273 06	\$1,949 98	\$323 08	\$173 24	\$2,446 30

*This amount deducted.

The totals of the foregoing table afford the basis for the following statement: The gross profit amounts to 16.02 per cent. on sales; salaries and expenses 10.07 per cent. on sales; net profits 5.95 per cent. on sales; the profits divided represent an average on checks returned of 6.24 per cent. for full dividend, and 3.12 per cent. for half dividend; the sinking fund represents more than 14 per cent. of net profits besides initiation fees; the interest is 5 per cent. on capital, and the total return on capital is 73.68 per cent.

At the close of the first year's business the share capital represented 664 shares; merchandise in stock, including dry goods and fuel, amounted to \$2,554.27; fixtures, \$767.28; cash in bank, 1,249.26; and the association might well congratulate itself on the results accomplished, and the prosperous future apparently before it.

I have taken up a large amount of space on this subject because I firmly believe that co-operation will prove to be the band by which capital and labor will be united, as it will bind employer and employee closer together, and lead the latter to strive harder for combined success. Under the present industrial condition the tendency appears to be, that the rich will grow richer and the poor poorer. Place the laborer in a position in which he will become a part sharer in the profits of his production, and where he will realize that he has a part interest in the workshop or factory in which he works, he will at once be lifted to a higher social standing, and the social relations between employer and employee will become more congenial.

FEMALE EMPLOYES.

The last General Assembly passed the following law :

Be it enacted by the General Assembly of the State of Missouri, as follows:

SECTION 1. That it shall be the duty of all employers of females in any mercantile business or occupation to provide and maintain suitable seats for the use of such female employes at or beside the counter or work-bench where employed, and to permit the use of such seats by employes to such an extent as may be reasonable for the preservation of their health.

SEC. 2. That any violation of this act by any employer shall be deemed a misdemeanor, and on being thereof convicted shall be punished by a fine not exceeding twenty-five dollars, at the discretion of the court. And it is hereby made the duty of the commissioner of labor statistics to secure, as far as may be in his power, a proper observance of the provisions of this act.

SEC. 3. All acts or parts of acts inconsistent with this act are hereby repealed:

Approved March 7, 1885.

It being made the duty of the Commissioner of Labor Statistics to enforce the provisions of this enactment, I have personally or by my chief clerk, twice visited the principal mercantile establishments in St. Louis and Kansas City where females are employed—the first time presenting a copy of the law to each of the proprietors or business managers of the same, and explaining its provisions, and the second time (two months afterwards) to look after its observance and compliance.

I found, except in one or two instances only, a cheerful disposition to acquiesce in the law, and a general concession that the intent of the law was good, and its enforcement would result to the advantage of the employer by protecting the health and thereby promoting the usefulness and business efficiency of the employes. Many establishments had long before the passage of the law anticipated its benefits and had

ample seats provided for their employes. Others cheerfully conformed to it. It would, however, be difficult, were the provisions of the law ignored or evaded, to obtain information from the employes that would safely warrant a prosecution, for the simple reason that whoever gave information or appeared as a witness, would be sure to loose her situation.

However, I find upon the whole that the law is working well, and have reason to believe that prosecutions will not be necessary, the good common sense of the employer being of itself sufficient to enforce it.

CHILD LABOR.

According to the United States census of 1880, there were employed in that year in the State of Missouri, 63,995 minors, classified as follows: Males over 16 years old, 54,200; females over 15 years old, 5,474, and children of less age 4,321. Nearly all of this number are employed in the larger cities, St. Louis employing alone a total of 41,825. Of the number of children 3,084 appear as employed in St. Louis. This labor is mostly employed in the manufacture of tobacco, baking powders, matches, crackers, candies, cotton bagging and knit goods.

To ascertain the exact age of children so employed is next to impossible, as it appears that they are instructed to avoid giving information in that respect, their answer in most instances being: "I am 14 years old." Many of these children in our crowded cities are growing up without even the rudiments of education, and the number of this class seems to be increasing yearly, and will continue to do so in proportion with the development of those industries where child-labor is utilized.

Some of the parents are anxious, while many of them are from necessity compelled to have the children's work aid in providing for the necessities of life, at the sacrifice of the moral and mental culture of the same.

To provide at least for a partial education nearly all the States of the Union have laws in existence prohibiting the employment of children under fourteen years of age, unless they can show that they have attended school for at least three months during the year next preceding.

As the continued and constant employment of children at work will prevent their mental development, so will the confinement in factories and workshops during ten hours each day retard and cripple their physical development. Laws can perhaps be enacted to bring some relief, but the main, and in my opinion the only successful remedy will be the fostering of public sympathy for the children, and the cultivation of a public opinion against their employment.

PRINTING INDUSTRY.

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THE ST. LOUIS "REPUBLICAN."

Capital invested.....	\$500,000 00
Products of fiscal year.....	\$400,000 00
Average number of persons employed.....	200
Number of men.....	200
Highest weekly wages paid to men.....	\$60 00
Lowest weekly wages paid to men.....	\$7 00
Number of boys.....	4
Number of women.....	2
Highest weekly wages paid to women.....	\$18 00
Lowest weekly wages paid to women.....	\$12 00
Average number of hours worked per day.....	8

GLOBE-DEMOCRAT'S REPORT.

Business	Newspaper.
Location.....	St. Louis, Mo.
Capital invested.....	\$500,000
Products for year.....	\$800,000
Number of weeks in operation.....	52
Raw material used.....	\$225,000 00
Average weekly wages of writers, editors and reporters.....	\$26 00
Officers, clerks, etc.....	\$30 00
Pressmen	\$13 00

GLOBE-DEMOCRAT'S REPORT—CONTINUED.

Engineers.....	\$20 00
Firemen.....	\$12 00
Sterotypers.....	\$14 00
Printers.....	\$20 00
Number of men employed.....	198
Number of apprentices.....	2
Number of piece workers.....	103
Highest wages paid per week.....	\$100 00
Lowest “ “ “.....	\$5 00
Average annual earnings.....	\$187,200 00
Average number of hours worked per day.....	.

REPORT OF AN EMPLOYEE.

The following intelligent report is made by an employe in the office of the *Globe-Democrat* :

1. Do you work by the day or by the piece ?

By the piece.

2. How many hours constitute a day's labor where you are employed ?

About eleven, of which about three and a half hours are preparatory, for which we receive no compensation.

3. What are your earnings per day ?

They average about \$4.00.

4. How many days did you lose by sickness during the past year ?

About ten.

5. How many days by inability to get work ?

About fifty—that is, each man holding a situation is laid off on an average of one day in a week, as the regular force is too large to give every one full time, and it must be kept large, as no one can tell when there will be a rush of work on account of important news.

6. How many stories is the building in which you work ?

Four and a basement.

7. Is it provided with proper fire escapes ?

As far as I know, it is.

8. How many accidents have happened where you work since January last ?

None.

9. About what size is the room in which you work?

Forty by ninety feet.

10. How many persons work in it?

About seventy-five.

11. Have you been implicated in any strike since January last?

No.

12. Are girls and women employed in the place where you work?

One woman.

13. Do men and women work together in the same room?

Yes.

14. Is your occupation unhealthy?

Not particularly so; but from the fact that the work is mainly at night, it is somewhat at variance with nature.

15. Is your occupation unhealthy of itself?

Yes.

16. Or from the locality?

No.

17. If so, in what respect?

As stated above, on account of night work. It is injurious to some constitutions, and wearing upon the eyes.

18. Are you a member of a Trades Union?

Yes.

19. How much money have you paid such union since January last?

Regular dues about \$5.

20. Have any considerable number of workmen been discharged since January last without notice?

None.

21. If so, do you know the reason?

Several have been discharged for incompetency, and three or four for violation of office rules, such as neglect of their business, or drunkenness about the office.

22. Are your wages paid in cash?

Yes.

23. How often?

Every week.

24. Remarks:

The above is simply an individual statement of earnings, and will not be fair for an average of the men; but, I will briefly say that the work on a morning newspaper in this [St. Louis] or other cities is pretty much the same, and is as follows:

Over one-half of the compositors are unmarried, with but themselves to care for, and they live in boarding houses. From the nature of their work, they soon lose all social surroundings, and many become rather dissolute, while it usually requires the entire amount of earnings of both married and single to maintain life, leaving no surplus. A few have recently purchased their own homes on monthly payments, and thus have a new impetus to work. The average of the married men's families is five, and they are usually non-productive in the way of earnings, the children usually attending school.

With but few exceptions the places where printers are employed are healthy, except as above stated.

In a newspaper office there is usually about half as many extras ("subs") as there are "regulars," and where an office employs sixty regular men, there are usually from ninety to one hundred upon its weekly pay-roll, and while a regular can work 300 days out of the 365, if he desires to do so, he usually works but 200 days, the other 100 being given to "subs;" and thus the entire force, regulars and extras, will average four days per week, and as each man is paid by the piece, according to his speed, the only fair way to arrive at the average earnings of each man is to divide the entire amount paid per week by the total number of the men on the roll, and in the *Globe-Democrat* office this average is about \$18.50 per week, and on the *Republican* it is very nearly the same, while on the German papers it is about \$16.00 per week. The same system prevails on the evening papers, although not to so great an extent, and the average weekly earnings on an evening paper will be found to be about \$17.00.

THE A. N. KELLOGG NEWSPAPER COMPANY.

The above firm, located at 224 and 226 Walnut street, St. Louis, is engaged in general newspaper printing and publishing, and in supplying stereotype plates. It makes the following

REPORT:

Capital invested.....	\$50,000 00
Products for year ending Sept. 1st, 1885.....	\$130,000 00
Raw material used.....	\$50,000 00
Printers' average weekly wages.....	\$18 00
Editors average weekly wages.....	\$22 00

Pressmen, (foremen), weekly wages.....	\$24 00
Feeders, (workmen), weekly wages.....	\$16 00
Book-keepers weekly wages.....	\$19 00
Boys weekly wages.....	\$6 50
Number of men employed.....	50
Number of women employed.....	1
Number of boys employed.....	8
Number of piece workers.....	12
Number of time workers.....	38
Highest wages paid men per week.....	\$30 00
Lowest wages paid men per week.....	\$11 50
Highest wages paid women per week.....	\$12 00
Average wages paid boys per week.....	\$6 50
Average number of hours work per day.....	10

REPORT OF ST. LOUIS TYPOGRAPHICAL UNION NO. 8.

The following report made to this Bureau by Mr. Hugh T. McMurry, corresponding secretary of St. Louis Typographical Union No. 8, representing the employes of about ninety different firms, gives as full and complete information concerning the printing industry, generally, as can be obtained.

The questions and answers are as follows :

1. How many belonging to your Union are married ?

About 200.

2. Unmarried?

About 250.

3. How many persons are dependent upon them for support ?

An average of three for both married and single.

4. Do the men work by the day or by the piece ?

On newspapers by the piece ; on other work by the day.

5. How many hours constitute a day's work ?

On morning papers about 11 ; evening papers about 9½ ; day work 10 hours.

6. What are the average earnings per day ?

Three dollars.

7. How many days on an average were lost during the past year by sickness?

The average for each man will be over one in the year.

8. How many days by inability to get work?

One-third of the year.

9. Has your Union been engaged in any strike since January last?

This Union has had no strikes during the year, but has been endeavoring to induce the proprietors of the "Post-Dispatch" to become a union office, and pay the regular scale of prices, and it is gratifying to state that an amicable adjustment of differences will crown our efforts with success by the close of this week, [October, 1885].

10. Are girls and women employed where you work?

A few, and where they are employed they work in the same room with the men.

11. Is your occupation unhealthy?

Not necessarily; but injurious to the sight.

12. From the occupation itself?

Yes, from the close observation of bad manuscript.

13. From the locality?

Yes, because of the location frequently having no sunlight, and requiring artificial light, day and night.

14. How much money have the members paid into the Union since January last?

Each member has paid about four dollars during the year.

15. Have any considerable number of workmen been discharged since last January, without notice?

But few, except from lack of work to keep them employed. Summary and unwarranted discharges are unusual among printers; but they occasionally occur from caprice on the part of foremen.

16. Are any boys under 14 years employed?

Hardly any; 15 or 16 being about the youngest age at which a boy can be of any service in a printing office.

17. Are wages paid in cash?

Always and weekly.

18. Remarks:

There are about 200 non-union printers in St. Louis, including about 50 boys, girls and women, and their earnings are about an average of 25 per cent. less than those of union printers; other conditions being the same.

An approximate estimate of the earnings of all printers in St. Louis, union and non-union, employed and unemployed, would give an aver-

of \$2.00 per day for each man, and \$1.00 for each woman pursuing the printing trade for a livelihood.

The Typographical Union makes no distinction between the sexes, but employers frequently employ women and girls only because they can get them to work cheaper than men. Women, with few exceptions, remain outside the union for two reasons: First, they do not serve a regular apprenticeship, nor expect to remain permanently at the trade, and only acquire a superficial knowledge of the business; and, second, they find they cannot get employment if they demand the same wages as men.

CONVICT PRINTERS.

About fifteen months ago the *Journal* Printing and Publishing Company of Jefferson City entered into a contract with the Warden of the Penitentiary for the purpose of printing their newspaper and doing a general job printing business. The enterprise proved a failure, and in October, 1885, the contractors were forced to abandon the contract.

This was due to two causes: First, the newspaper press of the State, almost without exception, denounced the enterprise as one coming in direct conflict with the labor of honest printers. A "boycott" was the result, and the withdrawal of public patronage forced a virtual suspension of the paper, and caused a change in proprietorship, and a return to the customary methods of newspaper composition; second, the failure of the job department was not so much due to the "boycotting" process as to the incompetency and inefficiency of the convict printers. They were mostly short term men, and their discharges came before they became skilled. Their work in most instances, except in the commonest grades of printing, was inferior to that of honest skilled workmen, and could not survive competition in the markets. The experiment has demonstrated the fact that in an employment that requires intelligence and pride, the work of a convict must inevitably prove inferior to that of the honest craftsman.

WAGE-WORKERS.

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WAGE WORKERS.

The table illustrating the average daily and weekly wages received by employes in the most common of the industrial occupations is made up from returns made to this Bureau by individual employes, a sufficient number of returns from each occupation being used to make a fair average. A noticeably different average is arrived at from returns made by employers, which is presumably explained on the theory that employes usually give the lowest figures, while the employer generally gives the highest, the tendency on the one part being to make it appear that their condition is worse than it really is, and on the other part to make it appear that the laborer is better off than he really is.

GENERAL STATISTICAL TABLE,

SHOWING AVERAGE WAGES PER DAY OR PER WEEK, AND THE AVERAGE NUMBER OF HOURS CONSTITUTING A DAY'S LABOR IN FORTY-EIGHT DIFFERENT EMPLOYMENTS.

Occupation.	Wages per day.	Wages per week.	No. of hours constituting day's work.	Remarks.
Barber.....	\$1 50		12	
Baker.....	1 75		10	Employes generally in cracker factories.
Brass finisher.....		\$12 50	10	
Brush maker.....		7 75	9½	
Blacksmith.....	2 50		10	
Boiler washer.....	1 75		10	

GENERAL STATISTICAL TABLE—CONTINUED.

Occupation.	Wages per day.	Wages per week.	No. of hours constituting day's work	Remarks.
Brick maker.....	2 15	.....	8	Average in all departments except foremen, who average \$75 per month.
Brick layer.....	.....	27 00	10	.....
Cigar maker.....	.....	10 55	10	.....
Carpenter.....	.....	.....	.....	.....
Carpenter-building.....	2 45	.....	10	.....
Composition roofer....	2 00	.....	10	.....
Cotton spinner.....	.....	10 00	11	.....
Candy roller.....	1 00	.....	10	.....
Glass blower.....	5 50	.....	10	.....
Horse shoer.....	.....	8 00	10	.....
Hostler.....	1 50	.....	12½	.....
Horse collar maker.....	.....	10 00	9	.....
Iron moulder.....	.....	13 85	10	.....
Laborer—all work.....	1 35	.....	10½	.....
Machinist.....	2 75	.....	10	.....
Machinist—wood work	2 15	.....	10	.....
Match box maker.....	85	.....	10	.....
Plumber.....	.....	15 00	10	.....
Polisher.....	1 80	.....	10	.....
Porter.....	.....	10 00	10	.....
Paper box maker.....	.....	19 00	10	.....
Pork packer.....	2 00	.....	10	.....
Printer.....	2 25	.....	9½	This table represents about 100 firms and 900 printers, union and non-union.
Painter—house.....	2 50	.....	10	.....
Painter—carriage.....	.....	12 00	10	Employed about ½ time.
Quarryman.....	1 90	.....	10	.....
Screw cutter.....	1 25	.....	10	.....

GENERAL STATISTICAL TABLE—CONTINUED.

Occupation.	Wages per day.	Wages per week.	No. of hours constituting day's work.	Remarks.
Sawyer.....	1 30	.....	10	.....
Stocking knitter.....	50	.....	10	.....
Shoe maker....	.....	11 50	9½	City prices.
Stove moulder.....	.....	12 40	10½	Core maker, \$2
Stove moulder.....	.....	9 75	10	Bench molder, \$1.80.
Street car conductor....	2 00	.....	15½	.....
Street car driver.....	1 65	.....	15½	.....
Ship carpenter.....	2 50	.....	10	.....
Ship caulker.....	2 50	.....	10	.....
Trunk maker.....	1 90	.....	9	.....
Truck builder.....	1 25	.....	10	.....
Tinner.....	2 00	.....	10	.....
Teamster.....	1 60	.....	11	.....
Willow ware maker....	1 50	.....	10	.....
Weaver.....	2 50	.....	10	Boss in Southern Bagging Mills.

NOTES.—There are about 700 bricklayers in the city of St. Louis, not including 350 apprentices. On account of the nature of the occupation they find employment only about 200 days in the year.

The average weekly wages of cigarmakers in Kansas City is \$11.50, and in St. Louis, \$10.

Glass bottle blowers usually are without work for the months of July and August. It is claimed that the importation of German bottles seriously interferes with that industry in St. Louis, and limits the demands for and the wages of labor.

Boys from ten to seventeen years of age are being largely employed in house painting, thereby cheapening wages.

In the brush making industry boys are generally taking the places of men; while complaint is made that in St. Louis the women in the work house are hired at twenty-five cents a day by manufacturers.

Quarrymen rarely find employment for more than eight months in the year on account of rain and frost.

Emery dust seriously affects the health of stove mounters, frequently resulting in pulmonary consumption.

Boys are largely employed in carriage painting.

In horse collar making employes complain that they are brought in direct competition with convict labor to their detriment.

The stocking knitters in St. Louis very generally complain of poor pay, overwork, and frequently of harsh treatment.

COMPARATIVE WAGE TABLE.

The table on the following page is intended to show, in a form for ready comparison, the average weekly earnings of wage workers in Missouri, Ohio, Michigan, Wisconsin and California. The Missouri table is compiled mainly from the reports made to this Bureau by individual employees; while the tables for the remaining States are the result of a study of the latest reports of their respective Bureaus. Some prominent discrepancies are noticeable, and can only be accounted for on the theory of careless preparation of tables. However, the comparative table we present will be found to be approximately correct, and we note with gratification that the labor of the Missouri wage-worker is better rewarded than in any State except California.

COMPARATIVE TABLE OF AVERAGE WEEKLY WAGES RECEIVED BY EMPLOYEES IN FIVE STATES.

Character of Employment.	Missouri.	Ohio.	Michigan.	Wisconsin.	California.	Remarks.
Barber.....	\$9 00	.....	\$9 06	\$11 00	.....
Baker.....	10 50	\$11 00	10 50	7 95	\$19 50	
Brass Finisher.....	12 50	.....	.....	15 00	21 25	
Brush maker.....	7 75	10 00	12 00	.....	18 00	
Blacksmith.....	15 00	13 25	12 00	12 75	19 50	
Brick maker.....	12 90	.....	18 00	.....	18 00	
Bricklayer.....	27 00	20 85	17 16	19 50	27 00	
Boiler workers.....	13 50	.....	13 08	.....	.....
Cigar makers.....	10 55	9 88	11 88	.....	12 75	
Carpenters.....	14 70	13 84	12 08	13 14	21 00	
Candy maker.....	13 50	.....	11 52	.....	.....
Carriage maker.....	13 00	.....	.....	.....	16 50	
Glass blower—window glass.....	33 00	31 25	.....	*60 00	.....	*Evidently an overestimate.
Glass blower—bottles.....	25 00	24 50	.....	35 00	.....
Hostler.....	9 00	.....	7 50	.....	12 75	
Iron moulder.....	13 85	15 95	10 86	16 50	19 50	All kinds of cast iron workers.
Laborers—all work.....	8 10	.....	8 58	.....	11 25	
Lithographers and Engravers.....	20 00	.....	.....	15 00	37 50	

Machinist.....	10 50	14 44	13 20	15 00	19 50
Plumber.....	15 00	.....	12 78	.....	21 00
Porter.....	10 00	.....	9 96	.....	.....
Printer.....	13 50	14 14	11 64	15 00	24 00
Painters—house.....	15 00	13 92	11 40	14 25	24 00
Painter—carriage.....	12 00	11 37	18 00	16 50	24 00
Photographer.....	12 09	.....	.....	15 00	19 00
Planing mill workers.....	13 50	.....	.....	.....	18 00
Quarrymen.....	11 40	10 13	.....	.....	.....
Screw cutter.....	7 50	10 40	.....	.....	.....
Sawyer.....	7 80	.....	14 70	.....	16 00
Stocking knitter.....	4 35	.....	3 19	.....	9 00
Shoemaker.....	11 50	11 00	9 48	10 50	18 00
Street car conductor.....	12 00	.....	.....	.....	12 00
Street car driver.....	9 90	.....	9 18	.....	14 25
Ship carpenter.....	15 00	.....	13 50	13 00	25 50
Ship caulker.....	15 00	.....	13 50	12 00	24 00
Trunk maker.....	13 00	.....	9 00	.....	.....
Tinner.....	12 00	.....	11 28	9 00	16 50
Teamster.....	9 60	.....	9 36	8 15	.....
Tobaccoist.....	12 00	.....	12 00	.....	16 50

COMPARATIVE TABLE, ETC.—CONTINUED.

Character of Employment.	Missouri.	Ohio.	Michigan.	Wisconsin.	California.	Remarks.
Miller.....	15 00	14 50	11 64	.....	22 50	
Mill builders and machinists.....	15 00	15 00	14 70	24 00	24 30	
Marble workers.....	13 50	13 79	.....	15 00	19 50	

WAGES AND COST OF LIVING.

From the following tables it will be seen that wage-workers in the United States earn more wages during the year than those in Great Britain or Germany, but this does not necessarily make the prices of manufactured goods higher here, as the workmen in the United States employed in manufacturing industries will produce more goods in the same time than those in other countries. These facts are plainly and forcibly shown in a table compiled by J. Schoenhof from the United States census report of 1880, Mulhall's dictionary of statistics, reports to Parliaments and "Das Deutsche Wirthschaftsjahr 1881." This table only includes "textile fabrics," but proper investigation will be made during next year by this Bureau to collect facts in regard to the productive power of operatives in various other classes of manufactures for comparison of labor in the United States and various foreign countries.

COMPARATIVE TABLE OF EARNINGS AND COST OF LIVING OF WAGE-WORKERS IN MISSOURI, GREAT BRITAIN AND GERMANY.

MISSOURI.

Number.....	Persons in family.			Number at work.			Earnings.			Expenses.					Excess.	
	Adults.....	Children.....	Total.....	Head of family.....	Others in family....	Total.....	Head of family....	Others in family....	Total.....	Rent and fuel.....	Meat, groceries and provisions.....	Clothing, boots and shoes.....	All other expenses..	Total.....	Earnings.....	Expenses.....
1.....	2	5	7	1	.....	1	\$592 00	.....	\$592 00	\$130 50	\$160 00	\$90 00	\$62 50	\$443 00	\$149 00	.....
2.....	2	2	4	1	.....	1	560 00	.....	560 00	114 00	242 00	140 00	35 00	531 00	29 00	.....
3.....	2	4	6	1	.....	1	617 00	.....	617 00	92 00	312 00	102 00	81 00	587 00	30 00	.....
4.....	2	6	8	1	.....	1	575 00	.....	575 00	118 00	342 00	98 00	15 00	573 00	2 00	.....
5.....	2	2	4	1	1	2	480 00	\$210 00	690 00	150 00	380 00	95 00	112 00	737 00	.....	\$47 00
6.....	2	5	7	1	1	2	645 00	180 00	825 00	127 00	390 00	180 00	105 00	802 00	23 00	.....
7.....	2	4	6	1	.....	1	782 00	.....	782 00	140 00	395 00	150 00	70 00	753 00	27 00	.....
8.....	2	3	5	1	.....	1	565 00	.....	565 00	100 00	318 00	105 00	45 00	568 00	.....	3 00
9.....	2	3	5	1	.....	1	591 00	.....	591 00	116 00	291 00	90 00	50 00	547 00	44 00	.....
10.....	2	2	4	1	.....	1	600 00	.....	600 00	145 00	210 00	100 00	120 00	575 00	25 00	.....

COMPARATIVE TABLE, ETC.—CONTINUED.

GERMANY.

Number.....	Persons in family.			Number at work.			Earnings.			Expenses.						Excess.	
	Adults.....	Children.....	Total.....	Head of family.....	Others in family....	Total.....	Head of family.....	Others in family....	Total.....	Rent and fuel.....	Meat, groceries and provisions.....	Clothing, boots and shoes.....	All other expenses..	Total.....	Earnings.....	Expenses.....	
1.....	2	2	4	1	.....	1	\$239 00	.....	\$239 00	\$37 00	\$176 00	\$18 00	\$2 00	\$233 00	\$6 00	.....
2.....	2	3	5	1	1	2	263 00	48 00	311 00	43 00	159 50	47 00	11 00	260 50	50 50	.....
3.....	2	.....	2	1	1	2	272 00	63 00	335 00	39 00	155 00	63 00	29 00	286 00	49 00	.....
4.....	2	1	3	1	.....	1	317 00	.....	317 00	42 00	162 00	65 00	32 00	301 00	16 00	.....
5.....	2	3	5	1	.....	1	300 00	81 00	381 05	49 00	170 00	62 00	28 00	309 00	72 00	.....

COMPARATIVE TABLE, ETC.—CONTINUED.

GREAT BRITAIN.

Number.....	Persons in family.			Number at work.			Earnings.			Expenses.						Excess.	
	Adults.....	Children.....	Total.....	Head of family.....	Others in family....	Total.....	Head of family.....	Others in family....	Total.....	Rent and fuel.....	Meat, groceries and provisions.....	Clothing, boots and shoes.....	All other expenses..	Total.....	Earnings.....	Expenses.....	
1.....	2	5	7	1	2	3	\$326 02	\$192 21	\$518 23	\$77 86	\$248 16	\$97 32	\$94 89	\$518 35	.....	.....
2.....	2	2	4	1	1	2	277 36	101 21	378 57	107 06	221 39	50 12	.....	378 57	.....	.....
3.....	2	4	6	1	1	2	417 50	151 82	569 32	102 19	321 16	167 04	38 93	569 32	.....	.....
4.....	2	6	8	1	2	3	399 01	272 50	671 51	126 52	428 21	82 72	34 06	671 51	.....	.....
5.....	2	2	4	1	1	2	341 59	88 56	430 15	81 75	213 61	80 29	54 50	430 15	.....	.....
6.....	2	5	7	1	2	3	284 17	327 49	575 66	86 13	329 19	84 91	75 43	575 66	.....	.....
7.....	2	4	6	1	2	3	301 69	128 95	430 64	82 72	216 54	53 32	77 86	430 64	.....	.....
8.....	2	4	6	1	.....	1	379 55	.....	379 55	90 02	211 67	65 69	12 17	379 55	.....	.....
9.....	2	3	5	1	2	3	126 52	666 64	793 16	24 33	291 96	131 38	199 51	647 18	\$145 98	.....
10.....	2	4	6	1	2	3	253 03	253 04	506 07	82 72	364 95	58 40	.....	506 07	.....	.....

COMPARATIVE TABLE, ETC.—CONTINUED.

GERMANY.

Number.....	Persons in family.		Number at work.			Earnings.			Expenses.						Excess.	
	Adults.....	Children.....	Total.....	Head of family	Others in family	Total	Rent and fuel.....	Meat, groceries and provisions	Clothing, boots and shoes	All other expenses..	Total	Earnings.....	Expenses			
1.....	2	2	4	1	.....	1	\$239 00	\$176 00	\$18 00	\$2 00	\$233 00	\$6 00	.....		
2.....	2	3	5	1	1	2	43 00	159 50	47 00	11 00	260 50	50 50	.....		
3.....	2	.....	2	1	1	2	39 00	155 00	63 00	29 00	286 00	49 00	.....		
4.....	2	1	3	1	.....	1	42 00	162 00	65 00	32 00	301 00	16 00	.....		
5.....	2	3	5	1	.....	1	49 00	170 00	62 00	28 00	309 00	72 00	.....		

COMPARATIVE TABLE, ETC.—CONTINUED.

GREAT BRITAIN.

Number	Persons in family.			Number at work.			Earnings.			Expenses.						Excess.	
	Adults.....	Children.....	Total.....	Head of family.....	Others in family....	Total.....	Head of family.....	Others in family....	Total.....	Rent and fuel.....	Meat, groceries and provisions.....	Clothing, boots and shoes.....	All other expenses..	Total.....	Earnings.....	Expenses.....	
1.....	2	5	7	1	2	3	\$326 02	\$192 21	\$518 23	\$77 86	\$248 16	\$97 32	\$94 89	\$518 35	.....	.....
2.....	2	2	4	1	1	2	277 36	101 21	378 57	107 06	221 39	50 12	.....	378 57	.....	.....
3.....	2	4	6	1	1	2	417 59	151 82	569 32	102 19	321 16	167 04	38 93	569 32	.....	.....
4.....	2	6	8	1	2	3	399 01	272 50	671 51	126 52	428 21	82 72	34 06	671 51	.....	.....
5.....	2	2	4	1	1	2	341 59	88 56	430 15	81 75	213 61	80 29	54 50	430 15	.....	.....
6.....	2	5	7	1	2	3	284 17	327 49	575 66	86 13	329 19	84 91	75 43	575 66	.....	.....
7.....	2	4	6	1	2	3	301 69	128 95	430 64	82 72	216 54	53 32	77 86	430 64	.....	.....
8.....	2	4	6	1	.....	1	379 55	.....	379 55	90 02	211 67	65 69	12 17	379 55	.....	.....
9.....	2	3	5	1	2	3	126 52	666 64	793 16	24 33	291 96	131 38	199 51	647 18	\$145 98	.....
10.....	2	4	6	1	2	3	253 03	253 04	506 07	82 72	364 95	58 40	.....	506 07	.....	.....

In the late reports made by U. S. consuls in Germany to the Department of State at Washington, Consul Dithmar, at Breslau, Germany, sums up the wages of farm laborers in that district as follows: Free lodging, free fuel, about 100 square rods of land for raising vegetables for family use, \$19.00 to \$23.80 cash, 24 bushels rye, 3 bushels barley, 3 bushels peas and $1\frac{1}{2}$ bushels wheat. The laborer's wife is required to work when needed, and receives for her work from 10 to 14 cents per day.

Mr. Fox, consul at Brunswick, reports farm laborers' wages in that district as ranging from \$184 to \$195 per annum.

In regard to the wages of miners Consul Dithmar states that daily wages range from $18\frac{1}{2}$ cents for common miners to $52\frac{1}{2}$ cents for foremen, engineers and carpenters. He estimates that the average cost of subsistence of a miner's family, including rent, clothing and taxes, is \$122.82 per annum.

MANUFACTORIES.

STATISTICS OF MANUFACTURES IN MISSOURI AS COMPILED FROM THE UNITED STATES CENSUS OF 1880.

Mechanical and Manufacturing Industries.	Number of establishments.....	Capital.....	Average number hands employed.				Amount paid in wages.....	Value of raw materials.....	Value of products.
			Male.....	Female...	Children..	Total.....			
Agricultural implements.....	74	\$645,772	713	.....	13	726	\$276,536	\$599,015	\$1,141,822
Artificial leathers and flowers.....	3	36,000	9	50	15	74	25,450	66,000	147,250
Artificial limbs.....	1	2,000	3	.....	.....	3	2,000	2,000	6,000
Awnings and tents.....	11	129,400	50	167	5	222	57,200	259,885	403,740
Babbitt metal and solder.....	1	10,000	5	.....	.....	5	3,000	3,000	7,500
Bagging, flax, hemp and jute.....	3	370,000	149	161	76	386	150,216	545,900	867,395
Bags, other than paper.....	3	575,000	90	110	8	208	82,000	1,466,000	1,730,000
Bags, paper.....	5	88,750	14	30	43	87	30,450	177,800	238,100
Baking and yeast powders.....	12	176,900	74	28	18	120	56,940	288,400	468,500
Baskets, rattan and willow ware.....	7	9,015	13	.....	.....	13	6,140	3,960	18,020
Belting and hose, leather.....	1	100,000	60	.....	.....	60	31,000	91,000	210,000
Billiard tables and material.....	2	48,000	7	.....	.....	7	2,840	25,800	51,500
Blacksmithing.....	1,249	827,105	1,436	.....	26	1,462	510,890	727,585	1,122,068
Blueing.....	3	7,700	8	.....	3	11	2,950	9,400	18,100

STATISTICS OF MANUFACTURES IN MISSOURI—CONTINUED.

Mechanical and Manufacturing Industries.	No. establishments	Capital.....	Average number hands employed.				Amount paid in wages.....	Value of raw materials.....	Value of products.
			Male.....	Female...	Children..	Total.....			
Bone, ivory and lamp-black.....	1	60,000	25	.....	5	30	12,000	25,000	50,000
Book-binding and blank book making.....	15	145,500	159	58	9	226	87,800	114,100	232,087
Boot and shoe, uppers.....	3	12,000	13	.....	.....	13	7,052	17,400	29,200
Boots and shoes, custom work and repairs.....	560	1,063,615	1,474	227	206	1,907	678,324	1,586,222	2,938,857
Boxes, cigar.....	6	57,550	51	22	11	84	34,100	47,700	105,600
Boxes, fancy and paper.....	6	21,500	27	44	19	90	23,300	45,800	91,200
Boxes, wooden.....	16	66,100	128	.....	5	133	58,426	141,730	251,400
Brass castings.....	14	186,100	149	.....	8	157	70,067	395,275	570,450
Bread and other bakery products.....	227	864,520	773	90	73	936	405,064	2,159,908	3,250,192
Brick and tile.....	220	989,415	2,271	8	468	2,737	705,975	388,363	1,602,522
Bridges.....	2	1,440	11	.....	.....	11	4,520	2,940	12,500
Brooms and brushes.....	48	113,200	199	3	112	314	102,159	178,515	350,165
Carpentering.....	449	569,050	2,168	.....	10	2,176	1,172,409	2,677,721	5,027,011
Carpets, rag.....	4	400	4	.....	.....	4	1,150	1,200	7,100

Carriage and wagon material.....	5	138,000	217	3	220	97,768	139,690	280,600
Carriages and sleds for children.....	1	250	.....	.....	.....	.....	250	810
Carriages and wagons.....	119	1,054,050	1,557	8	66	1,631	699,892	2,483,738
Cars, railroad, street and repairs.....	8	424,200	926	.....	50	976	411,591	1,931,609
Cement.....	1	1,000	3	.....	.....	3	400	1,100
Charcoal.....	11	2,860	66	.....	.....	66	14,030	28,638
Cheese and butter (factory).....	30	123,990	38	12	7	57	8,464	96,128
Clothing, men's.....	170	1,450,254	1,368	1,631	13	3,062	882,726	3,822,477
Clothing, woman's.....	15	172,111	75	514	30	619	141,174	536,143
Coffee and spices, roasted and ground.....	7	240,000	95	2	4	101	44,090	598,000
Coffins, burial cases, undertakers goods.....	19	48,600	31	4	.....	35	14,793	186,017
Confectionary.....	46	319,260	234	190	25	449	174,574	1,247,235
Cooperage.....	182	609,260	1,227	.....	97	1,324	510,654	1,904,822
Coppersmithing.....	4	4,500	11	.....	1	12	6,800	27,500
Cordage and twine.....	15	14,075	42	.....	40	82	18,423	80,164
Cordials and syrups.....	2	3,200	3	.....	.....	3	1,652	30,960
Cork cutting.....	1	18,000	2	5	.....	7	5,200	18,000
Corsets.....	3	720	2	3	.....	5	1,450	6,460
Cotton goods.....	4	890,500	123	207	183	512	99,080	524,580
Cutlery and edge tools.....	5	5,000	21	.....	.....	21	10,196	26,650
Dentistry (mechanical).....	15	9,660	7	3	1	11	5,034	39,870

STATISTICS OF MANUFACTURES IN MISSOURI—CONTINUED.

Mechanical and Manufacturing Industries.	No. establishments	Capital.....	Average number hands employed.				Amount paid in wages.....	Value of raw materials.....	Value of products.
			Male.....	Female...	Children..	Total.....			
Dentists material.....	1	\$200	.....	.....	.....	.....	.....	\$300	\$1,000
Drain and sewer pipe.....	2	50,300	9	.....	.....	9	\$3,350	16,120	25,500
Drugs and chemicals.....	21	722,450	236	64	32	332	130,475	680,545	1,220,211
Dyeing and cleaning.....	5	16,450	17	6	1	24	6,950	2,650	23,900
Dyeing and finishing textiles.....	3	16,000	14	5	4	23	7,500	5,500	22,200
Electroplating.....	9	17,900	30	1	2	33	13,225	9,920	45,200
Engraving and diesinking.....	8	9,975	16	.....	1	17	7,585	11,250	31,800
Engraving, steel.....	10	72,100	47	2	3	52	25,050	62,500	120,900
Engraving, wood.....	3	12,200	22	.....	2	24	11,350	1,370	21,070
Explosives and fire works.....	1	900	.....	.....	2	2	200	2,000	4,000
Fertilizers.....	2	108,000	64	.....	2	66	36,720	210,000	380,000
Files.....	6	38,900	35	.....	.....	35	17,142	7,870	34,300
Flavoring extracts.....	1	2,000	2	.....	.....	2	1,500	3,000	7,000
Flouring and grist mill products.....	872	7,883,675	3,375	.....	1	3,376	1,200,493	28,202,782	32,438,881

Food preparations.....	4	17,100	13	.....	13	4,800	11,375	30,840
Foundry and machinshop products.....	97	4,027,163	3,902	.....	42	3,944	3,147,187	6,798,832
Fruits and vegetables, canned and preserved.....	4	44,000	61	8	1	70	79,902	155,250
Furniture.....	157	1,178,682	1,387	11	76	1,474	1,219,165	2,380,563
Furniture, chairs.....	12	332,063	324	1	118	443	179,167	449,812
Furs, dressed.....	2	35,000	7	26	3	36	29,533	47,000
Glass.....	6	1,430,000	709	36	220	965	351,871	919,827
Glass, cut, stained and ornamental.....	3	11,000	16	.....	.....	16	7,100	27,600
Gloves and mittens.....	4	14,200	30	35	4	69	19,350	46,700
Glue.....	6	36,850	27	.....	4	31	43,575	77,300
Gold and silver, reduced and refined.....	1	350,000	125	.....	.....	125	4,038,925	4,158,606
Grease and tallow.....	7	44,250	22	.....	.....	22	72,220	117,300
Hairwork.....	9	17,700	6	24	.....	30	20,250	42,200
Hammocks.....	1	1,000	.....	6	2	8	700	2,500
Handles, wooden.....	8	3,800	14	.....	.....	14	3,020	13,700
Handstamps.....	1	2,000	2	.....	.....	2	1,000	5,000
Hardware.....	11	210,300	113	.....	1	114	103,156	192,462
Hats and caps, not including wool hats.....	10	60,900	51	83	4	138	80,740	182,531
Hosiery and knitted goods.....	4	29,400	3	114	1	118	41,575	85,000
Ice, artificial.....	1	60,000	17	.....	.....	17	7,000	21,000
Ink.....	3	9,600	8	.....	.....	8	7,290	16,234

STATISTICS OF MANUFACTURES IN MISSOURI—CONTINUED.

Mechanical and Manufacturing Industries.	No. establishments	Capital.....	Average number hands employed.				Amount paid in wages.....	Value of raw materials.....	Value of products.
			Male.....	Female ...	Children..	Total.....			
Instruments, professional and scientific.....	4	\$54,660	22	.....	.....	22	\$12,700	\$35,725	\$87,450
Iron and steel.....	22	9,152,472	2,989	.....	150	3,139	734,575	3,249,558	4,660,530
Iron bolts, nuts, washers and rivets.....	4	235,000	123	.....	14	137	60,498	301,937	493,560
Iron forgings.....	2	85,000	123	.....	.....	123	40,000	110,000	199,000
Iron railing, wrought.	6	23,400	34	.....	5	39	20,760	25,360	63,400
Iron work, architectural and ornamental.....	5	34,800	54	.....	.....	54	21,850	34,860	77,610
Jewelry.....	8	52,000	55	.....	7	62	37,600	98,000	189,500
Jewelry and instrument cases.....	1	900	.....	.....	.....	.....	.....	1,500	3,000
Kaolin and ground earths.	1	100	4	.....	.....	4	1,400	200	2,000
Labels and tags.....	3	10,300	12	.....	.....	12	7,868	10,910	25,500
Lamps and reflectors.....	7	291,600	139	.....	20	159	74,139	376,540	519,300
Lard, refined.....	2	53,000	48	.....	20	68	30,000	24,000	174,000
Lead, bar, pipe, sheet and shot.....	2	205,000	26	.....	.....	26	13,000	460,000	548,000
Leather, curried..	15	72,500	66	.....	.....	66	22,804	276,034	336,623

Leather, dressed skins.....	1	1,000	1	.....	1	140	1,000	1,600
Leather, tanned.....	26	137,850	107	3	8	118	321,805	435,072
Lightning rods.....	3	54,000	16	.....	.....	16	14,491	39,292
Lime.....	17	172,050	135	.....	7	142	86,575	186,075
Liquors, distilled.....	20	230,100	54	.....	5	59	354,973	527,530
Liquors, malt.....	64	4,942,700	1,394	.....	108	1,502	2,852,236	5,048,077
Liquors, vinous.....	9	459,950	49	2	.....	51	94,230	185,900
Lithographing.....	5	71,500	94	6	17	117	83,344	214,989
Lock and gunsmithing.....	25	21,425	28	.....	2	30	12,506	41,924
Lumber, planed.....	26	409,350	546	2	41	589	774,442	1,267,636
Lumber, sawed.....	881	2,867,970	3,408	.....	95	3,503	3,215,292	5,265,617
Malt.....	1	30,000	8	.....	.....	8	90,000	100,000
Mantles, slate and marble.....	2	13,600	11	.....	2	13	17,550	27,700
Marble and stone work.....	115	376,800	697	.....	21	718	354,958	1,003,544
Masonry, brick and stone.....	79	95,440	473	.....	1	474	264,221	683,900
Mattresses and spring beds.....	11	24,950	59	23	13	95	94,636	172,300
Mineral and soda waters.....	27	152,000	128	5	28	161	102,390	274,100
Models and patterns.....	4	13,700	11	.....	1	12	1,920	21,400
Musical instruments.....	10	61,500	12	1	1	14	9,425	31,250
Musical instruments, organs.....	3	10,600	9	.....	.....	9	5,200	16,600
Musical instruments, pianos.....	7	21,356	19	.....	.....	19	8,060	27,200

STATISTICS OF MANUFACTURES IN MISSOURI—CONTINUED.

Mechanical and Manufacturing Industries.	No. establishments.	Capital.....	Average number hands employed.				Amount paid in wages.....	Value of raw materials.....	Value of products.
			Male....	Female...	Children..	Total.....			
Oil, castor.....	2	\$185,000	56			56	\$25,404	\$158,000	\$312,000
Oil, cotton seed and cake.....	2	80,000	55			55	19,750	80,000	140,000
Oil, lard.....	3	96,000	25			25	13,050	505,750	539,000
Oil, lubricating.....	1	2,000	3			3	1,000	7,000	9,000
Oil, neat's foot.....	2	400,300	11			11	3,946	92,666	102,300
Painting and paper hanging.....	156	392,180	975	15	19	1,009	443,944	610,594	1,404,122
Paints.....	16	1,808,350	563	10	4	577	270,532	2,186,480	2,825,860
Patent medicines and compounds.....	27	1,402,700	207	90	15	312	139,996	502,735	1,197,090
Paving materials.....	2	155,000	21		2	23	4,780	12,500	30,800
Perfumery and cosmetics.....	1	2,000	2			2	1,252	600	2,500
Photographic apparatus.....	1	15,000	6			6	2,000	6,000	15,000
Photographing.....	40	100,750	78	22	6	106	55,538	62,100	219,694
Pickles, preserves and sauces.....	3	48,200	58	25	25	108	41,989	134,200	211,200
Pipes, tobacco.....	1	2,000	12		9	21	4,000	2,000	12,000

Plated and britannia ware.....	1	40,000	25	.....	25	15,000	7,000	35,000
Plumbing and gas-fitting.....	63	126,475	251	.....	7	130,599	227,958	516,683
Printing and publishing.....	131	2,949,060	2,380	250	161	1,538,564	1,515,048	4,482,962
Pumps, not including steam pumps.....	11	530,600	112	.....	2	66,680	703,670	932,550
Refrigerators.....	4	43,700	106	.....	15	54,950	203,300	344,500
Regalia and society emblems and banners.....	2	2,100	1	3	.....	900	5,100	7,000
Roofing and roofing material.....	7	66,200	84	.....	.....	52,750	87,450	180,550
Saddlery and harness.....	355	1,898,723	1,954	12	87	793,536	2,345,485	3,976,175
Safes, doors and vaults, fire-proof.....	2	5,800	12	.....	.....	6,060	6,000	19,000
Sash, doors and blinds.....	15	600,795	677	.....	43	279,911	696,671	1,232,670
Saws.....	2	245,000	80	.....	.....	56,000	130,000	281,000
Shingles, split.....	1	600	2	.....	.....	144	200	900
Ship building.....	14	247,900	293	.....	.....	196,005	313,392	565,187
Shirts.....	20	130,700	56	357	1	110,136	146,700	332,852
Show cases.....	6	29,100	90	4	1	37,235	19,750	109,450
Silk and silk goods.....	1	4,000	3	2	.....	750	630	2,500
Silversmithing.....	4	22,350	16	.....	.....	7,300	24,450	43,050
Slaughtering and meat packing.....	65	2,327,500	1,743	.....	103	657,918	12,352,907	14,638,630
Soap and candles.....	19	766,927	273	2	3	104,061	1,336,376	1,704,941
Sporting goods.....	1	3,000	.....	13	.....	1,404	7,000	15,000

STATISTICS OF MANUFACTURES IN MISSOURI—CONTINUED.

Mechanical and Manufacturing Industries.	No. establishments	Capital.....	Average number hands employed—				Amount paid in wages.....	Value of raw materials	Value of products.
			Male.....	Female....	Children..	Total.....			
Stamped ware.....	1	800,000	403	87	.....	490	170,000	550,000	850,000
Stationery goods	1	150,000	45	5	.....	50	30,000	40,000	100,000
Steam fitting and heating apparatus.....	1	60,000	55	.....	.....	55	25,750	45,500	100,780
Stencils and brands.....	6	4,750	11	.....	2	13	5,925	5,565	21,425
Stereotyping	1	10,000	15	.....	7	22	6,616	4,890	18,060
Stone and earthenware	32	82,000	169	1	13	183	65,350	46,490	159,518
Sugar and molasses, refined.....	1	840,000	250	.....	2	252	112,270	4,173,100	4,475,740
Surgical appliances.....	2	10,250	4	3	1	8	3,939	2,780	17,100
Tar and turpentine.....	1	85,000	3	2	4	9	1,500	2,500	5,000
Telegraph and telephone apparatus.....	2	25,000	14	.....	.....	14	9,000	14,400	36,000
Terra cotta ware	2	150,000	77	.....	.....	77	33,000	89,400	187,785
Tin, copper and sheet iron ware.....	297	658,860	772	18	62	852	338,597	864,643	1,637,320
Tobacco—chewing, smoking and snuff.....	43	1,440,200	1,008	231	515	1,754	493,559	4,243,614	5,286,338

Tobacco—cigars and cigarettes.....	294	4,435,502	886	15	136	1,037	424,303	612,393	1,524,381
Tools	2	20,150	11	.....	.....	11	8,500	8,400	81,500
Toys and games.....	2	800	1	.....	.....	1	60	400	1,350
Trunks and valises	17	123,600	178	.....	13	191	87,205	225,575	383,660
Type founding.....	2	190,000	105	40	.....	145	75,000	48,000	151,889
Umbrellas and canes.....	4	1,400	3	.....	.....	3	1,020	1,150	4,370
Upholstering	23	210,925	55	5	6	66	24,230	67,500	162,427
Upholstering material.....	1	14,100	3	.....	.....	3	900	5,400	10,000
Varnish.....	3	26,500	10	.....	.....	10	8,962	35,000	54,600
Vinegar.....	20	307,150	145	21	17	193	86,420	344,500	675,400
Washing machines and clothes wringers.....	2	300	2	.....	.....	2	450	450	1,900
Watch and clock repairing.....	37	51,445	34	.....	1	35	16,867	19,850	68,351
Watch cases.....	1	4,000	15	.....	.....	15	12,000	200,000	300,000
Wheel wrighting.....	331	243,760	435	1	4	440	153,437	233,729	620,287
Whips.....	6	11,660	43	.....	.....	43	11,139	19,960	39,414
Window blinds and shades	1	1,500	3	.....	2	5	14,000	6,500	10,000
Wire.....	3	378,600	494	.....	51	545	229,480	651,000	973,000
Wire work.....	8	153,700	134	4	38	176	60,890	112,620	371,600
Wood, turned and carved.....	19	29,225	42	.....	2	44	19,183	19,995	84,707

STATISTICS OF MANUFACTURES IN MISSOURI—CONTINUED.

Mechanical and Manufacturing Industries.	No. establishments	Capital.....	Average number hands employed.				Amount paid in wages.....	Value of raw material	Value of products.
			Male.....	Female....	Children..	Total.....			
Wooden ware.....	3	187,100	211	.....	53	264	85,300	227,100	336,600
Woolen goods.....	98	726,150	412	144	133	689	109,711	681,711	930,961
Total.....	8,592	\$72,507,844 54 200	5,474	4,321	63,995	\$24,798,392	\$110,798,392	\$165,386,205	

The above table has been compiled from the U. S. census of 1880, in lieu of direct reports from the manufacturers themselves, who, through unwillingness or neglect, have failed to respond to the requests of this Bureau,

COAL MINE INSPECTORS' REPORTS.

MINES AND MINING.

Prominent and careful consideration is given by this Bureau to the mining interests of the State. No other industry offers so great an opportunity to observe the relations between employer and employe, and, considering the extensive and inexhaustible mineral deposits within the State, it may well be said that the mining interest will soon attain the most significant position among all our industries.

It is much to be regretted that our present mining laws only refer to coal mines, and while they provide for annual reports to be made to this Bureau by the Mine Inspectors, the appointment of mine inspectors is entirely subject to the voluntary action of the various county courts, and the consequence is, that very few mine inspectors are appointed. Mine inspectors ought to be appointed in every county in which any class of mining is carried on, and the appointment should only be made after a careful examination before a board of examiners, and the appointees should be subject to removal for malfeasance in office or neglect of duty.

In order to guard more effectually against premature explosions, the use of iron needles or iron tamping bars used for tamping blasts should be declared unlawful, and only copper needles, and copper-tipped tamping bars permitted to be used. The owners or operators of every mine should be required to report annually to this Bureau the condition of their mine or mines, number of men employed, amount of wages paid, sanitary condition of employes, total amount of product of mine, amount of capital invested, and accidents and their cause, and such other matters as may aid in developing the mining interests of the State. To the many letters asking for information on the above subjects only a few replies have been received, all of which will be included in this report. If our mining laws were amended, as above suggested, very valuable information regarding the mineral resources of the State could be presented. Following are the reports of the

mine inspectors of Randolph, Macon, Ray, Bates and Barton counties, the only counties from which reports have been received.

The total output of coal in Missouri during the year 1885, reported and estimated, will amount to fully 1,500,000 tons.

RANDOLPH COUNTY REPORT.

MOBERLY, MISSOURI, DEC. 31, 1885.

HON. OSCAR KOCHTITZKY, *Commissioner of Labor Statistics*:

SIR:—As required by "section 11 of the mining laws," I have the honor to submit to you my annual report as mine inspector of Randolph county, ending December 31, 1885. I was appointed Inspector for this county the fourth Monday in July last, but did not enter in discharge of duty until a month later.

It would be a hard matter for me to state the number of acres of workable coal land in this county even approximately, but from the best information I can obtain on the question, there are about 160,000 acres. And from personal observations of the coal fields of this county I would say that the future and rising generations will find plenty of coal in this county. The amount of capital employed in mining in this county is not far from \$400,000. The amount paid to employes about \$230,000. The number of mines in operation thirty-seven; a large majority of them are operated in cold weather only, and a few of them only get out coal enough for their own use.

The Huntsville Coal and Mining Co. is the principal company doing business in the county. They employ in and about the mines 100 hands and have hoisted about 54,000 tons of coal. The capital of this company is \$50,000. The amount paid to employes is \$40,000. These mines are situated on the St. Louis, Wabash and Pacific railroad about four miles west of Moberly, and are furnished with all the modern improvements including railroad scales and screens, and is the only shaft in the county that has bonnets and safety catches on their cages. The underground connection with old "No. 1" renders means of escape in case of danger. The mines are free from water and are aired by means of a furnace. There is the amount of air required by law passing in the downcast but is not well distributed to the working faces, but this will be all right in a few days as the company is making improvements in that direction. The principal office of the company is at Huntsville. Wm. T. Rutherford is president, H. T. Rutherford is

general superintendent and James Howe is mine forman, who is admitted to be the most experienced coal mine manager in the State. E. L. Baker is the engineer and is the right man in the right place; a better man for the responsible position could not be found. This company pays twice a month in cash; keeps no "pluck me" store and was the first company in the State to start work under the new law.

The Star Coal and Mining Co. operates one shaft located at Renick, seven miles east of Moberly on the St. Louis railroad, with a capital of \$110,000, and has produced 30,630 tons this year; paid to employes about \$42,000, and employs at present 125 men. This mine is supplied with good machinery and everything about the top is in first class order. The ventilation is obtained by means of fans, but is not up to the requirements of the law; Mr. Prince assured me he will have it so in a short time; J. R. Willis is the engineer and handles the lever like an old veteran.

Elliot coal mine, located at Elliot on the M., K. & T. railroad, is operated by the Osage Coal and Mining Company, capital stock \$70,000; employs 112 men, and has produced this year 20,000 tons; paid to employes \$29,254.26; depth of shaft 145 feet from surface. The machinery is in splendid order, and the mine is ventilated with large fans. Thomas Fleming is superintendent.

Higbee coal mine is located one-half mile west of depot on the Chicago and Alton railroad, and is operated by the Higbee Coal and Mining Company, Thomas Fleming superintendent. This mine has only been in operation since July, 1884. Number of men employed, eighty; capital invested, \$25,000; paid to employes, \$50,000, and has produced 32,000 tons this year; depth of shaft, 170 feet. The machinery is all new and in good running order. The ventilation is effected by the use of fans. This company is sinking a new air shaft, the same is nearly completed. The capacity of this mine is 200 tons per day.

The Renick coal mine is three fourths of a mile southeast of Renick, and is operated by the Renick Coal and Mining company; capital, \$5,000; paid to employes \$15,850, and has produced 11,850 tons this year; depth of shaft eighty-five feet, and the hoisting is done by horse power. E. S. Hubbard is superintendent and is a young man of fine ability as coal mine manager. This company is going to sink a new air shaft in the spring for the better ventilation of their mine. They would have done so last fall had their works been driven to the desired place. The air is not up to the requirements of the law, but Mr. Hubbard and Mr Logan, the mine foreman, are doing all they can in that direction to bring the air up to the requirement. Number of men employed at present, fifty.

The Woodward Coal and Mining Company is running No. 3 at Huntsville; Mr. Breckenridge, superintendent; capital, \$120,000; paid to employes \$41,000; hoisted this year 40,000 tons; number of men eighty. This mine is ventilated by the use of large fans, and plenty of fresh air is supplied to every working place in the mine.

These mines have a total capital of \$380,000 and have produced this year 188,530 tons of coal; paid to employes, \$218,104; number of men employed, 547.

I have spent much time and attention to see that the law is complied with in these mines and must say that the persons in charge of mines are watchful for the care and safety of their men. As to the air, there are places in these mines where men have to work where the air is not fit to work in. But when the air is measured at the foot of down-cast the amount required by law is found, but to distribute it, so as to give every man, or to give every room or part of mine its proper part, is almost impossible; take it for instance, some coal mines are worked on what is called the double road system; in this case the air goes to the face of workings on one road and returns on the other, hence the men are generally well supplied with sufficient air by this system. But the coal companies claim they cannot afford to keep up two roads to one room where the roofing is so poor. Hence, most of the mines are worked on the single road system, so that the rooms in most cases have not sufficient amount of air for the men to work in.

Take the county all through, I can say the air is not what it ought to be. Number 3, Huntsville track, is the best aired shaft in the county, fully up to the requirements of the law. The roofing of all the mines is soap stone and black slate. Thickness of veins, first 18 to 20 inches, worked but very little; second vein, 3 feet 6 inches to 4 feet; this vein is the one principally worked.

PRICE OF MINING.

Price of mining is 94 cents per ton unto the first of April, 1886, all coal to be weighed before screening according to the law passed last winter. Day men are paid from \$1.25 to \$2.00 per day, engineers \$45 to \$60 per month.

COAL MINES FILLING LOCAL TRADE.

It would occupy too much space to give a detailed account of all the mines of that character in the county; there are about thirty in number working from two to fifteen men. Capital invested in all about 20,000 dollars, including value of leases, some of them running

from ten to twenty years. Number of men employed, 126; paid to employes \$30,840.60, and have produced 29,546 tons of coal.

The principal mine of this character is operated by Thomas Ry-lance two and one-fourth miles northwest of Moberly. Capital, \$2,000; amount paid to employes, \$14,000. The coal of this mine all goes to Moberly for local use. This mine is fully up to all the requirements of the law. Mr. Ry-lance spends a large part of his time in looking after the welfare and safety of his men. The men are lowered and hoisted at this mine by horse power and coal is hoisted by the same means. Roofing is of hard soapstone, capacity is 1,500 bushels per day.

Harry Ward operates a coal mine a half mile west of Thomas Ry-lance. Capital, \$1,000; amount paid to employes, \$3,000. The coal from this mine goes to Moberly for local use. Employs nine men. There is no escapement shaft at this mine; not well ventilated, but Mr. Ward is doing all he can under the circumstances for the welfare of his men; capacity, 1,000 bushels per day.

There are six small drifts in and about Huntsville, all doing some business—not so much this winter as last, owing to the warm weather. Most all the coal produced from these mines is hauled in wagons from the mines and loaded on railroad cars at the side track and sold to consumers between Huntsville and Kansas City and between Brunswick and Council Bluffs. The railroad rates are so high that it does not pay; it leaves a very small margin to the operator. The railroad gets the lion's share.

The balance of these mines are worked but very little, only in the flush season of cold weather, doing nothing when the roads are bad or in the summer time. I have visited most of the mines of this character and recommended to the operators such improvements as would be beneficial to the men employed.

RECAPITULATION.

Number of men employed.....	673
Capital invested.....	\$400,000
The annual production in tons.....	218,076
The amount paid to employes.....	\$248,944

The law is not complied with in a great many cases in the county. I have been very slow in enforcing the same as I thought it would be best for operators and men to give ample time for the operators to

make such changes as the law demands, but from the beginning of the new year I expect all mine owners to strictly comply with the law without fear or favor.

THE EFFECTS OF THE NEW LAW.

All the mines are running in compliance with the same, the operators and men being benefitted thereby. The former knowing their men are satisfied, hence strikes are avoided; the latter knowing they are paid for all clean coal sent to the surface.

OTHER NEEDED LEGISLATION.

I hope the next legislature will pass a bill to make it compulsory for all coal companies and others working men to pay twice a month in the lawful money of the country. This would in a great measure do away with "pluck me" stores and the paper scrip that is paid to men by some operators in the county.

TAMPING RODS OR BARS.

I think a clause should be inserted in our mining laws requiring the heads of all tamping rods or bars to be made of copper. I have no accidents to record by premature discharges caused by the use of iron heads, yet I do know men are killed every year by premature discharges caused by the use of the tamping rod now in use. It is the law in many of the Eastern States, also in many mining districts in Europe.

MINE INSPECTORS.

I am of the same opinion as your predecessor, Hon. Henry A. Newman, that the law should be so changed that instead of local inspectors there should be one mine inspector for the State, appointed by the State Commissioner of Labor. There should be two inspections a year. The inspector should be a practical miner, who should have been mining coal ten years prior to his appointment and should be examined by the Commissioner as to his qualifications. As to his salary, I leave that to wiser heads to determine. I am of the opinion that the next legislature will do well to consider the subject. I believe it would result in much benefit to both operator and men employed.

MINERS AS A CLASS.

It has been said that the coal miners as a class were an ignorant class of men, dull of comprehension, and made very poor citizens, as a

rule. Such is not the case. They are well posted on all the general topics, and as a reading people they stand second to no class of workmen. The great dailies and weekly newspapers are found in every house, and no few in number have classical attainments that need no mention from me. They know that it is the cardinal principle of a free republican government to ennoble toil and honor the toiler. They know too well that most of the laws passed by our Congress and State legislatures are passed in the interest of foreign capital and bloodless corporations. They watch our law-makers in both State and nation with an eye of criticism, and know by past experience that their interest is not so well guarded as the interest of capital. They know too well that if our flag was insulted and war declared that no other class of people would rush quicker to the defense of our flag and country than the so-called ignorant coal miners. They know too well that in case of an emergency this Government has the right to take them from their happy homes and firesides and rush them into battle in defense of our flag, and they do know and feel too well that a Government that can deprive them of home and the happy surroundings of their families, and then not protect them in their interests, is not a Government of the people and by the people, as Washington wrote; her name would be meaningless, her glory a dream and her institutions a mockery, and her proud flag, the stars and stripes, would contaminate the very air in which it floats.

Mr. Commissioner, let me say that the coal miners are looking forward to the dawn of better times for both operators and themselves. They know that capital and labor must go hand in hand as two brothers. No advantage should be taken by either party. The interests of one side should be guarded by the other, and when this view of the facts is considered by both parties then peace and quietness will reign throughout the mining camps of our country, and then Pinkerton's hirelings would have to make an honest living, as far as the coal miners are concerned.

Respectfully,

WILLIAM B. WATTS,
Mine Inspector Randolph Co., Mo.

BARTON COUNTY REPORT.

LAMAR, Mo., Dec. 26, 1885.

To the Hon. O. KOCHTITZKY, Commissioner of Labor Statistics and Inspection, Jefferson City, Mo.:

DEAR SIR: I hereby inclose you my report as mine inspector of Barton county, Mo., hoping you will excuse me for being so late in getting it in, as I have been waiting for reports of those operating coal mines in the western part of the county.

I have requested them to furnish me with the full amount of coal up to date, but they have failed to give report as required.

I have written to Kansas City to parties there. They have failed also to make any returns.

I have endeavored to obtain all the information I could, and in order to do this I took with me G. E. Root, coal expert and prospector, as my assistant. Mr. Root has had five years experience as prospector in this field, and the information he has furnished is worthy of consideration.

In my next report, however, I shall be able to give you a far more extensive one, as there are several coal banks that I did not deem worthy of reporting at this time that will appear in my next.

I have requested all parties operating mines in this county to furnish me with the actual amounts of coal taken out, so as to show full amount in my next report.

Yours, very respectfully,

F. M. BARRETT,

Inspector of Barton Co., Mo.

GENERAL STRATA.

Minden, the center of the Barton county coal field, is situated on the divide between the Missouri and Arkansas rivers. It is the highest point in the field. There are three coal veins to be reported from this district, but only one is being worked; therefore I will confine myself to that strata in my report. I give description of the other coal seams at the end of my report.

This coal is found in the lower or productive measures, and is known as the Cherokee coal. It ranges in thickness from twenty-nine to forty-three inches. Its southern outcrop is on Sec. 31, T. 31, R. 33. It dips from the crop to a depth of seventy feet below the surface. The

deepest point is on Sec. 31, T. 32, R. 33, on the Kansas State line. There are 7,000 acres of continuous, workable coal in this field, averaging thirty-three inches in thickness. The coal is of ordinary good quality and when taken from a depth where the disintegrating forces have not acted upon it, it is very compact and lustrous, and when mined from the clay a very small per cent. is wasted.

The coal lying north of the Minden field belongs to the same deposit, but crops high up in the hills. From the dip of the coal-bearing strata to the northwest would indicate that this coal lies at least 100 feet below the coal being mined on the Maries des Cygne at Rich Hill. The northern crop of the coal in this part of the field is on Sec. 7, T. 32, R. 33. To the north and southeast of this point the Cherokee coal is wanting, it being a low point. Its first appearance on the north is on Sec. 30, T. 33, R. 33. At this place it does not crop but cuts out within twelve feet of the surface, with a heavy dip to the northwest. On section 20, the same township and range, the coal rises and gets thin, five inches being the thickness at this point.

The land to the east of section 30 is owned by Hon. C. H. Morgan, situated on Sec. 29, T. 33, R. 33. This coal is about twenty-eight inches in thickness and covers about one-half of the section and comes to light on the east. There are about 2,000 acres in this part of the field.

Going east from this point we again get coal on Sec. 3, T. 32, R. 33, at the bank of E. Gilkey. This is the western outcrop of the Mound coal. It follows this range of hills to sections 2, 10, 11, 12, 13, 14, 23 and 24, all in township 32, range 33. Its eastern crop is on the land of Capt. R. J. Tucker, in the west half of sections 19, townships 32 and 33.

North of Liberal the coal again appears in the mounds. At Barton City the coal is thirty inches in thickness and of a very superior quality. This is the southern crop of the coal in Long Mound. This is located in sections 28, 29, townships 32 and 33.

In going west from this point, in section 16 of the same township and range, the coal comes to light and crops out high up in the hills, and is twenty-four inches in thickness. This point is known as Round Mound. The extent of this coal, as nearly as can be ascertained, is 1,000 acres. This is the northern crop of the Mound coal, or as far as it has been developed by the prospect drill. At this point I will close on this strata.

Overlying the Cherokee coal we find a small seam of coal, known in the field as the Williams' coal seam. This seam locally attains the thickness of from six to ten inches and is mined extensively for local purposes. This coal covers part of four sections. Its eastern crop is on Sec. 29, T. 32, R. 33.

The coal seam lying below the Cherokee strata (known as No. 17 of general section) is fifty feet below the coal mentioned above. This attains a thickness of sixteen inches of ordinary quality. This coal is being worked at Nashville in township 31, range 32.

With these few notes I will close my present report, hoping to have more extensive ones in my next.

Yours most respectfully,

F. M. BARRETT,

Inspector Barton county, Mo.

APPENDIX.

THE W. M. SHARP SHAFT, BARTON COUNTY, MISSOURI.

This shaft is located on the N. E. qr., Sec. 7, T. 31, R. 33; opened August 1, 1882; thickness of vein from thirty-two to forty inches. The roof is composed of blue clay shale with two feet of hard shale immediately above the coal. There is one air shaft; at the time of inspection there was no stack, and the air shaft was the downcast and the main shaft the upcast. Orders were given to put up the stack at once. As soon as this is done the air will be all that is required. The main shaft is twenty-seven feet deep; the coal is hoisted by a gin power. Six miners is the greatest number that were employed in these works at one time. These works are operated at the present time by Mr. Sharp and his four sons. The output of this mine since opening has been 40,000 bushels, as near as can be ascertained.

MINDEN SHAFT.

This shaft is located on the S. E. qr. Sec. 6, T. 31, R. 33; was opened September, 1883, by Capt. R. J. Tucker, and operated by Frank Orr for the space of five months. There were 15,000 bushels of coal taken from this mine during that time. The shaft is forty feet deep, hoisted by gin; the vein is three feet thick; roof good; mine is not being operated at the present time. During the time of operation of this mine one accident occurred by an explosion of powder through carelessness of the miners. There were five men slightly burned; no one was crippled and but one disfigured. This accident occurred March 4, 1884. No blame was attached to the operator of the mine for the same.

C. S. VAN PELT STRIP BANK.

This is surface mining, situated on the N. W. qr. Sec. 28, T. 32, R. 33; operated by R. T. Day; opened March, 1884. This bank has produced 28,000 bushels under Mr. Day's supervision. This bank was previously operated by G. McDermott & Bro. Owing, however, to the absence of any records I cannot tell how much coal they took out, but 25,000 bushels would probably be a safe estimate. A drift has been started here. The entry is twenty-five feet back from opening.

H. C. P. Flack owns a strip pit in the N. W. qr. Sec. 29, T. 32, R. 33; opened in 1882 by Bovard & Dickson, of Kansas City. The amount of coal taken from this bank cannot be ascertained by itself but will be given in the full report of the amount of coal mined by Bovard & Dickson.

MOREROD STRIP.

This was opened in 1881 by Bovard & Dickson; owned by Dr. Morerod of Schell City, Mo.; situated in the W. hf. of Sec. 19, T. 32, R. 33. This bank has been worked quite extensively, but owing to lack of information I cannot give the amount of coal taken from it alone. The amount will be in B. & D's full report.

MOREROD DRIFT.

Opened in August, 1882, operated by Bovard & Dickson; owned by G. H. Walser, Liberal, Mo.; situated in the S. W. qr. Sec. 18, T. 32, R. 33. At the time of inspection this drift was not in operation. The roof is composed of ten feet of slate and blue shale, capped by sand rock. The roof near the opening is bad. This drift has been closed down for the purpose of obtaining better drainage and air. When started again it will be in good shape and will be under the supervision of M. B. McHugh, a practical miner. The thickness of vein is thirty-four inches. The amount of coal taken out could not be ascertained.

MORGAN STRIP BANK.

Opened in August, 1882; operated by Keith & Perry, Kansas City, Mo.; J. H. Hunter, Superintendent; situated in the N. W. qr. Sec. 18, T. 32, R. 33; owned by the Hon. C. H. Morgan, of Lamar, Mo. These works are closed for an indefinite time. The amount of coal mined will be given in Keith & Perry's full report. Vein from thirty-four to forty-two inches thick.

LAST CHANCE STRIP BANK.

Opened in 1881; situated in section 19, township 33, range 33; operated by Keith & Perry and Bovard & Dickson; thickness of vein, 28 inches. Several other parties have shipped from this point, but from want of records, cannot ascertain the amount of coal taken from this bank.

BARTON CITY DRIFT.

Owned and operated by J. Foote; was opened December, 1884; situated in the southwest quarter, section 29, township 33, range 32; thickness of vein, from twenty-four to twenty-eight inches. Roof is blue shale from six to ten feet thick; one air shaft, sixty feet from the opening; main entry, 160 feet, with a butt entry, 120 feet. There are five miners employed. The output of this mine is 35,000 bushels.

GILKEY STRIP BANK.

Opened in 1877; owned and operated by E. Gilkey; located on northwest quarter, section 3, township 32, range 33. The vein is twenty-eight inches thick, and is from four to ten feet below the surface of the ground. The production of this bank has been about 50,000 bushels.

One accident—August 13, 1885,—by which A. Epperson lost his life. He was robbing bank from strip pit at the time, and the bank fell in on him.

LIBERAL DRIFT.

Opened March, 1885; owned and operated by G. H. Walser; situated in the southeast quarter, section 2, township 32, range 33; thickness of strata, twenty-six inches; roof is composed of blue shale, fourteen feet thick, capped by twelve feet of sandstone. The air is good, the miners stating at the time of inspection that they were satisfied as to the quantity and quality of air. At present there are seventy-one men employed. There has been one accident in the drift, whereby John Tathem had his hand badly crippled by a large piece of coal falling on it. The output of coal, as far as I could learn, has been 102,408 bushels.

On section 2, township 32, range 33, there are two other strip banks that have been operated by R. B. Adams and J. Curliss. These

two banks have produced, as near as could be ascertained, 80,000 bushels.

In the early part of November, 1885, a new shaft was sunk by Elliot & Co. on land owned by G. W. Walser, on east part of the same section. The coal is twenty-five inches thick; shaft sixteen feet deep, and has produced 17,000 bushels of coal. The roof is composed of blue shale from six to eight feet thick, capped by sandstone. There have been from two to four miners employed in this work. The shaft has closed down for an indefinite period owing to the dullness of the coal trade.

MACON COUNTY REPORT.

MACON, Mo., December 28, 1885.

To the Commissioner Bureau Labor Statistics, Jefferson City, Mo:

DEAR SIR: The undersigned inspector of mines within and for Macon county, respectfully submits the following report:

There are in this county approximately 306 square miles or 195,840 acres of workable coal lands. Estimating 1,000,000 tons to the square mile for each foot thickness will give the enormous yield in round number of 1,370,880,000,000 tons workable coal, allowing 30 per cent. for waste in mining. This coal is divided into five distinct beds or veins extending from the surface to a depth of 250 feet, only two of which are now worked; however, one vein two feet thick is worked by stripping, and the four feet six inch vein is worked by shaft and slopes.

No. of mines in active operation.....	22
No. men employed in mines.....	775
Amount capital invested.....	\$255,000 00
Amount paid employes.....	300,000 00
Average value coal at mine.....	1 75 per ton.
Average price paid for mining.....	75 per ton.
Annual production of mines.....	250,000 tons.
Annual capacity of mines.....	600,000 tons.
No. men employed in winter.....	900
No. acres coal worked out.....	400

Two accidents occurred during the year in which two men lost their lives from fall of rock. The accidents were unavoidable. The roofs of mines are soap stone and slate and stand well, with the exception of bell rock, which are in some parts of pits and are liable to fall any time without warning to the miner.

There has been but slight complaint made to me for want of air. The pits are fully up to the standard required by law, measured at the foot of downcast, but is not so well distributed in two of the pits as it should be. Mines are ventilated on the double entry system with furnace shafts for upcast. One pit is mined on the long wall plan, ventilated by large fan, which gives good air and plenty of it.

The mines have not been operated more than six months this year, as may be seen from output of coal, the trouble being caused in adjusting the price for mining to the satisfaction of the miner and operators. At Bevier there has been a long disastrous strike, resulting in a heavy loss to all interested and to the county.

Mr. Wardell succeeded in organizing a co-operative company, the stock (\$10,000) mostly being taken by experienced miners. The pit is in active operation and is successful beyond expectation, promising to adjust the trouble and differences that have so long affected the mining interest at Bevier.

W. S. Watson, one pit, employes 60 to 100 men.

Loomis and Snively, two pits, employs 200 to 300 men.

Co-operative company, one pit, employs 100 to 150 men.

J. W. Atwill, one pit, employs 60 to 120 men.

These five pits are at Bevier. The coal is hoisted by steam on cages; depth of coal below surface, from 35 to 140 feet.

Loomis and Snively's No. 4 pit employs negro miners principally. No. 3 pit was burned down last summer, claimed to be the work of an incendiary.

Little Pittsburg Coal Company operates one pit at Lingo; employs from 40 to 70 men; hoists coal by steam and is ventilated by fan on long wall work; pit is in fair condition, and output of coal is good.

W. H. Jones and Co's. co-operative company at Emerson employes from 40 to 70 men; coal mined from slope and hauled to railroad in boxes holding from 1,500 to 2,000 pounds. The slope is about three-fourths of a mile from railroad station.

These include all the first class mines in this county.

There are 15 other mines operated for the local trade, running the year, employing from one to nine men, which do not come under the law; also, a large number (I have not attempted to list them) mined by farmers for their own use.

The mining law is as good as can be applied at this time, as the coal industry is in its infancy, and if the salary would justify the inspector to expend the time that is necessary, can be made effectual and of vast interest to the miner and of benefit to the operators.

All of which is respectfully submitted.

JOHN W. RILEY,

Mine Inspector of Macon county.

RAY COUNTY MINE INSPECTOR'S REPORT.

To the HON. O. KOCHTITZKY, Commissioner of Labor Statistics of the State of Missouri:

The undersigned mine inspector for Ray county, Mo., submits his annual report of the condition and progress of the mines in Ray county, in compliance with the mining laws of the State.

There are twenty-four mines in operation in Ray county, ten of which are designated as first class, and come fully under the mining law. Fourteen are second class mines, and do not come fully under the mining law of the State. The following is a synopsis of the first class mines and their capacity:

Mine No. 6, located in Camden and operated by J. C. McGrew, is a shaft fifty-three feet eight inches deep, with escape shaft; works eighty-five men; hoists with steam power; product of coal for the year, \$500,000 bushels.

Mine No. 5, located one-half mile east of Camden, operated by James McEnkoe, is a shaft twenty-two feet in depth; works thirty men; hoists with horse power; product of coal for the year, 125,000 bushels.

Mines No. 3 and No. 4, situated one and one-half miles south of Richmond, Mo., and No. 8, situated two miles west of Camden, Mo. These mines are all shafts, and are operated by Scullin & Co. All these mines produced during the year, from December 1, 1884, to December 1, 1885, 567,600 bushels of coal, and worked 125 men. No. 4 hoists with horse power; No. 3 and No. 8 hoist with steam power.

Mines No. 5, No. 6 and No. 9, operated by Hughes & Co., produced during the year, 487,500 bushels of coal, and worked 140 men. These mines are provided with escape shafts, and hoist with horse power.

Mine No. 7, operated by Shôtwell & Co., located in Richmond, Mo. This mine produced, during the year, 150,000 bushels of coal, and is a shaft 110 feet deep; hoists with horse power, and works thirty-five men.

Mine No. 8, operated by William Wilson, produced during the year, 150,000 bushels of coal; works thirty men, and hoists with horse power.

Mines No. 7 and No. 8 are used together for escape shafts, as provided by law.

Mine No. 10, operated by Hayson & Co., located at Swanswick, is a shaft ninety-five feet in depth, with escape shaft lately made; works thirty men, and produced during the year, 90,000 bushels, and hoists with horse power.

The second class mines of the county are drifts, with four exceptions. The following is a summary:

No. 1, north of Hardin, about four miles, operated by Grant & Reid. No. 2 and No. 3, operated by Joseph Martin. No. 4, operated by Buford & Dail. No. 5, operated by Joseph Huston. No. 6, operated by Wm. Phillips. No. 7, operated by Wm. Bryant. No. 8, operated by Gilman Edgar. These mines produced, by estimate, 100,000 bushels of coal during the year, which coal is an excellent quality, and work forty-four men.

Mine No. 1, located six miles north of Milville, is operated by Henry Sater, and produced, by estimate, 30,000 bushels of coal, and works seven men. This is a shaft 160 feet deep, and hoists with horse power.

Mine No. —, operated by John Mellin, in city of Richmond, is a shaft sixty-five feet; produced during the year, by estimate, 15,000 bushels of coal, and works four men.

Mine No. —, operated by Rothrock & Milligan, is a shaft, and produced, by estimate, 15,000 bushels; works five men, and hoists by horse power.

Mine No. —, operated by J. T. Ford, situated one mile east of Richmond; produced during the year, by estimate, 15,000 bushels, and works five men, and hoists by horse power.

There are several other small mines that are not a subject of this report, having just begun operations.

The following is a summary of the foregoing report:

Total number of men employed in producing coal in Ray county from Dec. 1, 1884, to Dec. 1, 1885.....	541
Total number of bushels of coal produced.....	2,245,100
Total amount paid for royalty, mining, etc.....	\$134,706
Total amount of capital invested.....	\$100,000
Total amount paid for transportation.....	not known
Total number of acres of coal (estimated).....	275,000
Total number of bushels produced by one acre.....	72,000

The mines of Ray county produce an excellent quality of coal and are free from explosive gases. The coal is covered by a coal rock twelve feet thick, and makes the mines, with ordinary care, perfectly safe. The health of miners is preserved by good ventilation, which is easily obtained without great expense. The thickness of vein is twenty-four inches of merchantable coal.

JOHN T. BANISTER,
Mine Inspector of Ray County, Mo.

N. B.—The mines have been free from accident during the year, and are in good condition.

BATES COUNTY REPORT.

To the Hon. Commissioner of Labor Statistics of Missouri:

The undersigned mine inspector of Bates county has the honor of submitting the following mining report as required by law:

COAL.

Coal is one of the most important of all minerals. Several theories as to the mode of its origin have been put forth. The one generally believed in is that the rank vegetation during the carboniferous age, grew and decayed upon land but slightly raised above the sea, and that by slow subsidence this thick layer of vegetable matter sank below the water and become gradually covered with sand, mud and other mineral sediments, forming those vast coal beds on which the industrial pur-

suits of the present age so largely depend. At this age of the globe land had become more extensive, yet was flat and interspersed with great marshes, the atmosphere moist and heavily charged with carbonic acid, suitable to this immense vegetable growth, unknown to any other age; the crust of the earth was continually thickening, violent convulsions were going on, tearing asunder these layers of vegetable matter, sinking coal marshes lower, raising others higher. Currents of water would necessarily change, cutting away the deposits. The swamps in which the coal beds were formed were often very small, some of the deposits occupied only a few acres in area. Conditions favorable to the growth of coal vegetation existed in a large part of Bates county, some places light, others very heavy. The Rich Hill series seems to have been a deposit upon the low marshy plains around the borders of a retreating sea, none of the beds being very wide. We often see the coal climbing a hill at angles of ten to fifteen degrees, with the vein growing thinner as you advance until a seven foot vein in the valley will thin out to three on the top of the hill, or disappear in a fault altogether. Many claim that the reason of the coal thinning out as it climbs the hill is that the coal vegetation grew less rank on the sides of the bog, gradually getting less and less until it ceased to grow altogether.

Our coal seams are not continuous, as many suppose, nor do they run the same in thickness. In quality and position there is a radical difference, they lie in troughs, basins, dishes, patches and splices, thickening and thinning in different directions. Those who expect to find continuous beds will be disappointed; we can only know the extent and shape of a vein we see cropping out on a hillside, or that we sink a shaft through, by working out the subterraneous strata or thorough prospecting with a drill. Nothing equals the pick and drill of the practical miner.

FAULTS IN THE COAL.

In working out the vein the miner is frequently coming to slips, horsebacks, washouts, cut-offs and rock faults; they are all troublesome and make additional expense to the operator and labor to the miner in driving through them. Washouts vary in width, in places the seam appearing again in a few feet, at others hundreds of yards. Rock faults, in the form of layers of sand stone, have been found in our mines to cut a five foot seam down to eighteen inches, bearing fifteen degrees south of west for nearly a half mile, the large vein appearing no more on the south.

Horse backs are so called by their resemblance to ridges or saddles. They appear both upon the floor and roof; most miners term slips horse-backs. I feel assured the cause that made one never made the other. Slips are evidently the result of violent convulsions, which rent assunder the coal beds. A horseback from the roof is where a water channel ran over the ancient coal marsh in the early stages of its deposit, which cut away the vegetable matter.

MANNER OF MINING COAL.

As this report must come before the legislators of Missouri for consideration as a means of assisting them in framing laws bearing on the coal industry of our State, many of whom were never inside a coal mine, a brief sketch of how coal is mined would not be out of place in this report:

The tools of a miner consist of a sledge, several steel wedges, four or five picks, a drill, tamping bar, scraper and needle; this necessitates a keg of powder and a box of squibs. Two men work together in a room or entry to keep each other company in their dark abode. They are called now buddies and share alike the profits; one of them watches while the other works in dangerous places, and if anything happens to one, such as roof falling, the other raises the alarm. The Adrian, Miami, Mulberry and Walnut coal, which is only worked as yet on a small scale, is undermined with the pick and wedged down. In undermining, which is very laborious, the miner stands up until a few inches in depth is cut; he then sits down with his legs stretched wide apart in front of him and cuts in still deeper; he then lies down to enable him to reach farther under and finishes up. More skill is required in mining on this plan than where the veins are shot on the solid. The strata underlying the coal is generally fire clay, and almost as hard as sandstone. The Rich Hill coal is blasted out on the solid; a hole is drilled in the coal varying in distance according to circumstances, with proper grip, giving the powder the best advantage, from two to eight pounds of powder being used in each shot. Shooting is allowed in some of the mines twice a day, in others only once. At 12 o'clock and 5 the men are ready with their shots tamped, the signal is given by the engineer with the steam whistle to the cager below, who gives it to the nearest trapper who keeps watch at the door, who in turn raps on his door, when it is caught up by other trappers and passed over the entire mine. Each man lights his squib and retires to the top. The earth shakes above from these heavy discharges and a dense mass of smoke loads the mine. I have seen 250 bushels of coal set out in one single shot.

A railroad track is laid in all the entries and rooms: in the main entries the tracks are double. The coal is drawn from the face in cars by mules from 15½ to 16 hands high, to the bottom of the hoisting shaft; the cager runs the car on the cage and signals the engineer to hoist away, when it is carried twenty feet or more above the surface, when two men roll it to the tippie and dump it onto the screens, where it is distributed into three cars standing on tracks below—one receives the lumps, one the nut coal and the other the slack. A mine car holds from one to two tons. It takes one man stationed at the foot of the hoisting shaft to oil the cars.

DEAD WORK.

Dead work in mines consists of entry driving, ditch cutting, track laying, cutting air ways, providing props and railroad ties, hauling, dumping and loading coal; bratticing up break throughs and mouths of rooms, grading down hills for railroad track, shooting down top in low coal on muleways, taking out water, driving through faults, building doors on entries to turn the air and furnishing guards for the same. Miners dig coal by the bushel, receiving two cents per bushel, weighed as it comes from his room, before passing over the screens. When a car of coal is run on the cage below the cager raps once to the engineer, which tells him coal is coming; three raps tell him men are on, in which case more caution is used. Cages on which men are lowered and hoisted are provided with safety catches to lock the cage in the guides in case the wire rope should break, or machinery get out of order. All our mines but one have a manway with steps to go in and out.

Fire damp, the greatest enemy mine men have to contend with in other countries, has never been found in our mines. Black and white damp lurks around in some of our oldest mines in the worked out parts, but the operators have kept them away from the working face sufficiently that no one has suffered harm from them. I have a few times had my lamp suddenly snuffed out by a column of black damp that was making its way through the mine from the old workings. It is produced by the accumulation of garbish, filth and powder smoke in abandoned workings. All the miners are expected to be down the shaft or slope before the haulers go to work with their mules.

Our mines are worked on the pillar and room system. The shaft being sunk, two galleries are started in parallel lines, a pillar of coal four or five yards wide being left between the entries, which the working men cut through every sixty or one hundred feet for air. When a new hole is cut through the one behind is closed up by wooden brattice in order to force the air forward to the face of the workings. But

entries are opened to the right and left of the main entries on the same plan. In some mines the entries are driven singly, but they are not so good. Entries are from eight to twelve feet wide. Rooms are started off the butt entries, beginning from eight to twelve feet wide and gradually widening out to about twenty-four feet, at which width they are run parallel with main entry. This plan is often deviated from by reason of faults in the vein, described heretofore, and the roof in places becoming too treacherous to work under. Butt entries are about two hundred yards apart; the pillars or ribs left between the rooms are about twelve feet thick, through this pillar the workmen make a break-through about four feet wide, every sixty feet, to let the current of air through up close to the face. When a new break-through is made, the old one should be closed up in order to throw a stronger current of air to the working face, but this is not always done, because it cuts down the operators' profits, and the men suffer often with hanging powder smoke.

The pillars of a mine are left until the rooms are all worked out. When the miners attack them, and take them out, this is considered the most dangerous part of mining. Some of the mines have a large furnace, others an exhaust fan to produce artificial ventilation.

SMOKE IN MINES.

Smoke is the combined gasses and carbon escaping from fire in a state of imperfect combustion, and is liable to ignite by coming in contact with fire. In mines where the coal is shot on the solid, as is most of ours, vast volumes of smoke fill the mines after firing, which on being drawn to the one furnace becomes very dense in places. On September 14, John Henderson, a miner, was badly burnt in Mine No. 6. An investigation held went to show that at the noon firing, as he was preparing to leave the mine, a dense volume of smoke filled the mine around him, at which time an Italian miner put off a very light shot, which ignited the smoke and filled the entry with fire. Smoke is often permitted to hang too long in parts of our mines, some days, by the pit bosses, for the health and comfort of the miners.

VENTILATION.

The ventilation of mines is of great importance. Fans and furnaces are the means used, assisted by natural causes. A furnace is built of fire brick on a level with the vein of coal under an upcast shaft, in which a fire is kept up. A fan is placed at the top of an upcast

shaft and is run by steam power. There are days, in some of our mines, when a lamp can scarcely be kept burning on some of the entries by reason of a strong current of air sweeping through, while on other days, on the same entries, the current is weak and baffled. The intake or downcast being on a northern slope, consequently, when the wind blows from the north, which is generally cool, it has a tendency to suck in, hence the mine is well ventilated on such occasions. The lamps on the entry are often blown out. On a calm day, with only a light breeze from the south, the furnace and fan must labor without the outside pressure they had when the wind was north. Again, cool air is heavier than warm air. When the atmosphere outside is cool and inside warm, it must, following the laws of nature, press in at the intake. The law says there shall be passing in every mine one hundred cubic feet of air per minute to the man, measured at the foot of the downcast. All practical mine men know that a mine can have double that amount passing in at the downcast, while the men will be choking with smoke and bad air by reason of the pit bosses neglecting to erect doors at the proper places on the entries, and brattice up his break-throughs and abandoned rooms so as to carry the air from the downcast in the face of the workings, thence around the face to the upcast. Air entering a mine, could it find an opening, will take the nearest cut to the upcast. These openings it often finds, because it takes lumber and labor to close them up. I have never found an instrument to measure the air in a miner's room. Your lamp, lungs and eyes must be your guide to judge its quality and quantity. Here an inspector meets with his greatest trouble in enforcing the law regarding ventilation; not that he cannot tell from the burning of his lamp and the air taken into his lungs that it is impure, but the boss says it is good, you are mistaken in your judgment, you are not in this mine day after day like myself, did you not measure it at the downcast where the law said it should be measured, with your anemometer, and found I had more than the standard? The law does not say that I shall brattice up my break-throughs, nor hang doors where you want them. The inspector now must resort to the courts, where a justice who has likely never been inside a coal mine must decide the case upon the testimony offered. The very men whom the inspector is seeking to benefit, now say: "I cannot testify that this air is bad without losing my place; I have a family, and work is hard to get now; compromise it; the wind will change to-morrow, likely, and our air will be better." Let the law say how the air shall be conducted from the intake to the face of the workings and around the workings, and what openings shall be closed.

I wish to say in justice to Messrs. Sweeny, Superintendent of the Keith & Perry Coal Co., and J. T. Reavley, Superintendent of Rich Hill Coal Co., that these gentlemen have always treated me most courteously when in the discharge of my official duties, and afforded me every facility for entering and inspecting their mines at all times; and further, that these gentlemen have used all reasonable diligence in providing for the safety of the men under their charge.

MINERS' CUSTOMS.

Coal diggers have a custom that I do not know of being in vogue among any other laboring class. They only wash their hands at the noon meal, although their faces will be as black as midnight; but when the day's work is done they go through an ablution of the entire body. This custom is strictly adhered to, both in winter and summer. Many of them strip to the waist when in their underground room at work.

INTELLIGENCE AMONG MINERS.

A very respectable per cent. of our miners are intelligent—a reading and thinking people, well posted on the leading questions before the American people—keen disputants of the question that has baffled the wisdom of our greatest statesmen—Labor and Capital. During the dull seasons in the coal trade they have considerable leisure time. At these intervals they will frequently be found in squads and groups discussing this great problem of man against money, labor vs. capital, religious and political questions entering into their discourses, displaying thought and ability that would astonish those unfamiliar with their mode of life.

A large per cent. of all diggers entertain as little faith in a capitalist operating a coal mine and being free from a disposition to oppress them on every opportunity that presents itself, as a young Protestant that has been reared with Fox's Book of Martyrs in the house, has in Catholicism. There are a few miners who agitate every little trouble between the operators and men, who are only capable of seeing one side of a question, and do not stop to consider whether the grievance is real or imaginary, but advocate a strike, a resort to force. Such men in the coal fields are capable of doing much mischief, alike to men and operators, by their loud talk and socialistic views, sowing a seed of discord, which can only bring forth turmoil and trouble. There are times when the coal trade will justify a rise in price to the diggers and at other times a reduction. If the operators and miners would come together and settle this matter by arbitration, I believe it would save

much valuable time and money to operators, and would save a great deal of suffering and privation on the part of the miners and their families, and there would be none of that bitter feeling which a strike engenders. No miners' organization should ever advocate a strike until every possible means for an amicable settlement has been exhausted, for the men are sure to be the losers in the long run.

Men whose lives are largely confined to the dark and gloomy interior of a mine, where they are constantly confronted with the treacherous tap roof above, and noxious and explosive gases surrounding them; who take, as we might well say, their lives in their hands on entering the mines, baring the body to the waist and braving the perils to bring forth a commodity that the wheels of industry cannot move without, should have all the legislation that their surroundings demand. Rich men are a blessing, without them a country would be poor indeed, in every sense of the term; yet I have always thought they found means of protecting their interests in legislative halls which were not altogether in harmony with right and justice. From some cause our poor are getting poorer and more numerous, while the rich are growing richer, the middle man gradually disappearing. This is not a good showing for our republican form of government.

The statistics of the past few years show a vast amount of discontent among underground coal miners; a great amount of time has been lost in strikes and suspensions, which is paralyzing to the coal business, often resulting in the destruction of mining property and suffering among miners and their families. The cause of this discontent the Legislature should diligently enquire into and remove if possible.

AREA OF COAL.

It is utterly impossible to give the area of workable coal in Bates county, as required by law. The Walnut coal fields, which have within a short time secured railroad facilities, are being developed. The indications are that from the amount of croppings on the hillside and in ravines, they cover a large territory and will prove a source of vast wealth to Bates county. The Mulberry is the same series. From indications I am inclined to believe there is less barren ground in these fields than in the Rich Hill coal series. The Hudson coal, I think, lays only in small troughs and basins. The number of prospect holes put down in the Gilbreath neighborhood with a drill will justify this conclusion. The coal lands purchased by the Kansas Missouri Coal Company, in north of Prairie City and northeast of Papinville, from what I could see in a short stay, judging from surface indications, form a

rich coal deposit, and ere long will witness the business scenes of a coal mining community. Form a careful study of the coal interests of Bates county for years, I am led to believe that the black diamond is almost inexhaustable.

ACCIDENTS IN MINES.

I very much regret to have to say in this respect that a large per cent. of the accidents in our mines are traceable to carelessness or recklessness on the part of the miners themselves. Men, in their familiarity with danger, become careless and reckless. I have often insisted on them putting in more props in their rooms, when they nearly invariably say, time enough yet. I have seen men go through black damps and white damps, when there was no necessity for it. I have seen numbers of them pass through the cage when down, and under it when up, when there was a man-way around, a very dangerous proceeding. Numbers of times the mule drivers have passed me with mules in a trot or gallop, with one foot on the tail chain, the other on the inch and one-half projection at the bottom of the box. Many of them fail to use the necessary caution in handling powder and tamping; some in returning too soon to a squib that had been lit and was hanging fire. During the year, four men have been killed by falling roofs and eight seriously injured. Two men have been killed by premature discharge of powder in shooting, or squibs hanging fire, and returning too soon to examine same, while eight have been injured. One has been killed while passing under a cage, and three seriously injured. Six mule drivers have been crippled, more or less seriously. One man was injured by blast blowing through a rib; he was firing a shot on the rib, went into an adjoining room when the shot blew through and crippled him. I have no means of knowing how many of the injured die. I had time to call on one of the unfortunates injured some time ago, and am satisfied he cannot last much longer. He was a young, stout, noble looking fellow. The above is only a part of the accidents, as many of a less serious character the law does not require of me to investigate. I would recommend that there be a law passed requiring the county or district where mining is carried on to erect and maintain a hospital for crippled miners.

NO. OF MINES IN OPERATION.

It would be very difficult and tedious to give the number of mines in operation in this county. A large majority of them are surface mines or strip pits; they would run up into the hundreds. I will endeavor to

give a description of the leading mines on the Mo. Pacific and Gulf R. R. The Rich Hill Coal Mining Company operate the mines on the Mo. Pacific. R. M. McDowell, is general manager, T. Fleming, superintendent, J. T. Reavly, assistant superintendent. The following are their principal mines: Mine No. 1, worked by slope; the coal is drawn up the slope to the tippie with an engine. The pit boss is James Donelson. The number of men employed about fifty. The coal has been worked out of the rooms of this mine, the men are engaged in drawing the pillows, excepting a pocket or arm, passed by the former managers, laying southwest from entrance. The ventilation of this mine was good at the last inspection, Nov. 13. About the 1st of October I found considerable black damps and some white damps in parts of this mine, leading from the old workings, which was promptly shut off. This mine has a large furnace. Coal runs from six feet down to two; located in sec. 36, township 39, range 32.

Mine No. 6, Birch & Brown contractors, owned by Rich Hill Coal Co. This mine is worked by shaft, is located in sec. 31, township 36, range 31, and employs about 175 men. Eight to nine mules are employed to haul the coal from the rooms to the bottom of the shaft. The pit boss is Louis T. Bradford. This mine is in a good condition relative to ventilation; about two rooms were short, and Mr. Bradford was using all reasonable efforts to remedy them. There are several places that the roof is exceedingly treacherous, being soap stone, or, as called by miners, white top. Generally speaking, all the mines of the Rich Hill diggings have a fine top of hard slate or shale. The cars of coal are hoisted by a steam engine up the shaft to the top landing, which is about twenty feet above the surface, where a track is laid on the floor corresponding with the track on the cage; the car is now run from the cage to the scales and stops long enough to be weighed by the weighman, thence rolled a few feet farther to the tippie and dumped on the screens, passing into the R. R. cars below. There are often two checkweighmen here, one employed by the company and one by the diggers. The diggers pay their man the average made by all the men in the mine a day or month.

Mine No. 5, operated by the Rich Hill Coal Co., is located on N. W. corner of section 36, township 39, range 32, pit boss, Thomas M. Brennen. Ten mules are used in this mine drawing coal. There are in the neighborhood of 150 men in this mine. The smoke has been hanging in a number of rooms on 3rd and 4th north entries too long for the comfort of the men, but the pit boss, Mr. Brennen, was making every reasonable effort to right it by bracing up and putting up doors. There is an exhaust pan at the mine capable of throwing out 40,000 cubic feet

of air every minute. This mine is worked by shaft, and, like No. 6, it has steps to go down and out.

All the mines in the county have sufficient escapes. The coal in all the Rich Hill neighborhood is found on an uneven floor, being thickest on the low places or swamps of the mine, grows gradually thinner as it extends up the sides of the swamps or troughs, and loses itself altogether or dips over into an adjoining basin and regains its lost height.

Mine No 10, of the Rich Hill Coal Co., is operated by shaft. Men are lowered and hoisted in this with machinery. The patent safety catches are on the cages; pit boss, E. Allison. This is a new mine, working 16 men. Coal about three feet thick and rather soft. Up to a few weeks ago the mine was regarded by the company as a failure, but in driving north lately the lead is improving and considerable good workable coal may yet be found. It is located in S. E. 1-4 sec 26, township 39, range 32. Ventilation is reasonable good. Men push the coal to the bottom of the shaft in lieu of mules.

Mine No. 12, of the Rich Hill Coal Co., is worked by drift and is located on S. E. 1-4 of sec. 25, township 39, range 32. The pit boss is Pete Pearson. No. of men employed, about 50. This mine will only last a short time, having but a few acres of coal to take out. The depth below the surface of all this company's mines will run from 5 to 90 feet,

Other men have contracted to take out coal, for the company as yet are working on a small scale, and the company themselves are working other mines in a small way.

Since my last report, mine No. 4 of this company has been worked out and abandoned, also the Frank Brown mine.

The company has a large amount of capital employed in mining here, but how much I am unable to say.

Their annual output of coal will approximate 480,000 tons. The output of the county will reach between 800,000 and 1,000,000.

There are many other things connected with mining and operating mines, together with the lay of the strata, that I would like to speak of, but this report I give is too long.

MULBERRY COAL.

Some valuable veins of coal have been opened and worked on a small scale this fall west of Mulberry creek and north of the Marias des Cygnes river, that in quality I have never seen surpassed in the west. The roofing, so far as I examined, was first-class. I regret that I had

not the time to make a thorough examination of these coal fields. The vein where I examined was a little over three feet, and can be worked without the use of powder.

The Keith & Perry Coal Company operate the mines on the Gulf railroad. George R. Sweeney is superintendent.

Mine No. 5 of the Keith & Perry Co., is located on southwest quarter section 35, township 39, range 32, is operated by shaft. One hundred and thirty colored men (negroes) and fifty-five white men work in this mine. Ten or twelve mules are used to draw the coal from the men to the hoisting shaft, some of which are sixteen hands high. An exhaust fan runs with a steam engine is used for ventilating purposes. The coal in the swamps of this mine occasionally gets seven feet thick, thinning out gradually as it goes up the sides. There is a manway with steps for the men to go in and out. The coal is from five to sixty feet below the surface. The roof, like all Rich Hill coal, is a No. 1, being a hard, black slate. Here and there are patches of white top (soap stone), a treacherous roof; in places the bosses abandon the coal and work around it. Mr. McKey, the pit boss, frequently lets his mine come some short regarding ventilation, powder smoke hanging too long in some rooms. A new air shaft is being sunk which, when completed, will give better satisfaction to the inspector and the men.

Mine No. 4, Keith & Perry Coal Co., is located on the southeast quarter section 25, township 39, range 32; is worked by drift and stripping the covering off the coal. Number of men employed in and around this mine, seventy-five.

The coal output for the year of this company will reach 165,000 tons.

NUMBER OF MEN IN COUNTY.

I would judge there are in this county twelve hundred men mining and assisting one way and another in running the mines.

NAPHTHA, PETROLEUM, ROCK OIL, LUBRICATING OIL.

A Mr. Henderson in drilling for water on the northeast corner of section 28, township 42, range 33, some three months ago, at a depth of 225 feet, struck a vein of naphtha rock from which one barrel of oil a day has been pumped. It is undoubtedly a genuine article of oil. In a conversation with the family at the well I concluded the oil rock in which the oil lays in cavities had not been penetrated far enough to test the capacity of the vein. I regard it as a great discovery and it will be an incentive to others to prospect thoroughly until the

great veins that undoubtedly lay about this coal region will be tapped at the right place. The strata will, in all probability, not be very wide and wind like the bed of our most crooked river. The general opinion of geologists is, that this oil-bearing strata has been produced by the decomposition of both vegetable and animal matter; while coal is composed of vegetable matter alone. Coal oil has the addition of animal matter. According to the teachings of geology we must conclude that while the country now forming the Western States and Territories of North America bordering on the Pacific ocean, Canada and the Eastern States as far south as North Carolina, bordering on the Atlantic ocean, were, to a great extent, dry land, having been forced up and their mountain ranges formed by the pressure of the two great oceans mentioned, rendered possible by the thin crust of the globe; that for ages yet a belt extending north and south, including a large portion of the Mississippi valley, was a low, flat plain, interspersed with inland seas, swamps and jungles, on the borders of which grew a dense vegetation of ferns, calometes and conifers. Roaming through and around this growth swarmed reptiles of various species in great number and of immense size, and the waters swarmed with fish and amphibious reptiles, some of which were forty feet long. In the decay of this, in some way, it is conclusive petroleum was produced.

BOILER TESTS.

All boilers used to generate steam for the engines at the mines have been tested by hydrostatic pressure and warm water every six months and the papers filed in my office.

About five months ago I handed my resignation as mine inspector to the county court, from whom I had received my last appointment. They did not accept the same until the November term of court, to take effect the 1st of December, when they appointed Mr. John Whitehead, of Rich Hill, my successor. I have held the position ever since the Rich Hill mines opened up, prior to which time I had spent several years in mining and prospecting in Bates county. I have endeavored, to the best of my ability, to do justice to men and operators, duly considering the respective rights of both; how well I have succeeded I leave it to them to say. I feel considerably attached to the mining element of our county, and were it not that my private business demands more of my attention I would have staid with them a while longer. There are many good, noble men who dig coal for a living.

M. L. WOLFE, Mine Inspector.

Average value per ton at the mines.....	Entries into mines....	Condition of mines as to ventilation.....	Date of accidents.....	No. of acres of coal land in the county..	Price paid per bushel to miners.....	Thickness of vein in feet.....	Depth of coal below surface.....	How mined.....	Kind of power em- ployed in bringing out coal and hoisting.
\$1 50	1	Good.....	.....	.....	3 to 3½c.	3 ft.....	27 feet.	Shaft.	Gin..
1 50	1	Abandoned	March 4, '84	.....	3 to 3½c.	3 ft.....	40 "	"	Gin..
1 50	.....	.....	.....	.....	.....	2 ft. 8 in.	8 "	Strip.	.....
1 50	.....	.....	.....	.....	.....	3 ft. 2 in.	8 "	"	.....
1 50	.....	.....	.....	.....	.....	2 ft. 10 in.	10 "	"	.....
1 50	.....	.....	.....	.....	.....	2 ft. 4 in.	8 "	"	.....
1 50	.....	.....	.....	.....	.....	2 ft. 2 in.	20 "	Drift.	.....
1 50	.....	.....	Aug. 13, '85	.....	.....	2 ft. 3 in.	7 "	Strip.	.....
.....	"
1 50	1	Good	Oct. 16, 1885	.....	3 cents	2 ft. 2 in.	26 "	Drift.	.....
.....	.....	.....	.....	.....	.....	2 ft. 3 in.	16 "	Shaft.	.....
.....	.....	.....	.....	11,200	.....	.....	.....	.....	.....

Names of operators.	Postoffice address.	No. of tons produced since opening.....	Value of coal produced since opening.....	No. of persons employed over 16.....
W. M. Sharp	Minden, Mo.....	40,000	Coal valued at 6 cents per bushel.....	5
Frank Orr.....	Minden, Mo.....	15,000		6
R. T. Day.....	Minden, Mo.....	48,000		4
Keith & Perry.....	Kansas City, Mo.....	2,963,680		20
Bovard & Dickson.....	Kansas City, Mo.....	4,250,000		40
Last Chance—unknown.....		30,000		.....
J. Foote.....	Verdella, Mo.....	35,000		3
E. Gilkey.....	Dennison, Mo.....	50,000		3
Adams & Airliss.....	Dennison, Mo.....	80,000		6
Geo. H. Walser.....	Liberal, Mo.....	102,410		71
G. M. Elliott & Co.....	Liberal, Mo.....	17,000		3
Totals		7,631,090	\$457,865 40	161

KEITH AND PERRY COAL COMPANY.

The mines of this company are located at Rich Hill, Deepwater and Morgan, Mo., with principal business at Kansas City. Their capital invested in Missouri and Kansas is \$400,000.

Products for the year, 180,000 tons for the Missouri mines, which are in operation all the year.

The average number of persons employed in Missouri is 400 to 450.

Miners' wages average \$3.50 to \$4 per day.

Laborers' wages average \$2 to \$2.50 per day.

Teams' wages average \$3.50 to \$4 per day.

Clerical force wages average \$2 to \$7 per day.

Wages are paid monthly in cash, or in goods from the company's store, as the men prefer.

STAR COAL MINES.

The "Star Coal Mines" are located at Renick, Mo., and employ one hundred and five men. The miners work at the rate of 94 cents per ton, which makes a daily average of about \$1.30. On account of strikes the operatives lost an average of three months time during the year. Over two-thirds of the employees belong to labor organizations. They work ten hours a day, and are paid in cash the 25th of each month.

HUNTSVILLE COAL AND MINING COMPANY.

The mines of this company are in Randolph county, Missouri, and employ about sixty men, whose average daily earnings are about \$1.25. They labor nine hours a day and are paid in cash twice each month.

SUMMARY OF COAL

Name of owner or operator.	Postoffice address.	... dual 12000 acres of work-able coal...	How mined, drift, slope or shaft...	Kind of power employed in hoisting coal.....
Huntsville coal mining Co.....	Huntsville...	About 120,000 acres in Randolph county.	Shaft ..	Steam.....
Star coal mining company.....	Renick.....		"	"
Osage coal mining company.....	Elliot.....		"	"
Higbee coal mining company.....	Higbee.....		"	"
Renick coal mining company.....	Renick.....		"	"
Woodward coal mining Co.....	Huntsville...		"	"
T. Rylanse coal mines.....	Moberly		"	Horsepower..
H. Ward coal mines.....	"		"	.....
J. C. McGrew.....	Camden.....		"	Steam.....
J. McEnkre.....	"		"	Horsepower..
Scullin & Co..	Richmond...	About 275,000 acres of coal land in Ray county.	"	" ..
Hughes & Co.....	"		"	" ..
Shotwell & Co.....	"		"	" ..
Wm. Wilson.....	"		"	" ..
Hayson & Co.....	Swanswick ..		"	" ..
Gand and Reid.....	Mines in Ray county working less than ten men each.		Drift...	" ..
Joseph Martin.....			"	.....
Buford & Dail.....			"	.....
J. Houston.....			"	.....
Wm. Phillips.....			"	Horsepower..
Wm. Bryant.....			"	.....
J. T. Ford.....			"	.....
Gilman Edgar.....			"	.....
Henry Sater.....	"	.....	
John Mellen.....	"	.....	
Rothrock's & Mill's mines.....	"	.....	
Rich Hill mining company.....	Rich Hill...	.....	Steam.....	
Keith & Perry Coal company.....	Kansas City..	.....	"

MINES OF MISSOURI.

No. of miners employed	How long operated per year	Ventilation	Wages paid per ton.		Total wages paid during year	Capital invested...	No. of tons of coal mined
			Summer..	Winter...			
100		Furnace.	.75	.94	\$40,000 00	\$50,000 00	54,000
125		Fans.	.75	.94	42,000 00	110,000 00	30,680
112		"	.75	.94	29,254 26	70,000 00	20,000
80		"	.75	.94	50,000 00	25,000 00	32,000
50		"	.75	.94	15,850 00	5,000 00	11,850
80		"	.75	.94	41,000 00	120,000 00	40,000
.....					14,000 00	2,000 00	.....
9					3,000 00	1,000 00	.....
85							20,000
30							5,000
125							22,504
140							19,480
35							6,000
30							6,000
30							3,600
.....						
.....						
.....						
.....						
66							6,400
.....						
.....						
.....						
.....						
.....						
600	52 weeks.		.51½	.51½		\$500,000 00	315,735,12
450 .....			.51½	.51½		400,000 00	18,000,000

SUMMARY OF COAL

Name of owner or operator.	Postoffice address.	No. of acres of workable coal land.....	How mined, drift, slope or shaft.....	Kind of power employed in hoisting coal.....
Loomis & Snively.....	Hannibal	About 200,000 acres in Macon county.	Shaft ..	Steam
Little Pittsburg Coal company.....	Lingo		"	"
J. W. Atwill.....	St. Joseph....		"	"
Jones & Co.....	Emerson			
W. S. Watson.....	Bevier.....		Shaft ..	Steam
Summit co-operative mines.....	Bevier.....		"	"
W. M. Sharp.....	Minden		"	
Frank Orr.....	"		"	
R. S. Day.....	"		Strip..	
Keith & Perry.....	Kansas City..	About 11,200 acres in Barton county.	"	
Bovard & Dickson.....	"		"	
J. Foote	Virdella.....		Drift...	
E. Gilkey.....	Dennison		Strip...	
Adams & Curtiss.....	"		"	
G. H. Walser.....	Liberal.....		Drift...	
Elliott & Co.....	"		Shaft...	

MINES OF MISSOURI.—CONTINUED.

No. of miners employed.....	How long operated per year.....	Ventilation.....	Wages paid per ton.		Total wages paid during year.....	Capital invested...	No. of tons of coal mined.....
			Summer..	Winter....			
300	Fan.	.87	\$1.00	About \$300,000 in Macon county.	\$255,000 in Macon county.	About 250,000 tons.
6087	1.00			
8587	1.00			
6087	1.00			
9087	1.00			
10075	.87½			
675	.87½			
65 months.			
4			
20			
40
3
3
6
71
3

LEAD MINES.

LEAD AND ZINC MINING.

One of the most important industries in Missouri is the production of the various lead and zinc mines, yet the mining laws of the State do not apply to any character of mining except coal mining, and consequently no statistical information concerning our lead industry can be obtained, except such as is voluntarily given by the operators.

It is hoped that an occupation so important to the State, and hazardous to the lives and health of the operatives, will have thrown round it at least the same protection of law as now regulates coal mining.

In the report on "the resources of the United States," Mr. Kirch Jr., in an article on "the lead industry of the United States," gives 19,676 tons as the lead product of the States of Missouri, Kansas, Illinois, and Wisconsin during the year 1884. From the following report of the St. Joseph Lead Company it will be seen that the production of this one mine alone, for the year 1885, is 9,648 tons, or very near one half of the product of the above named States. A full report of the product will certainly prove that Missouri is one of the leading States in the production of lead, and may perhaps show it to be equal to Colorado, whose lead product in 1884 was 63,165 tons out of a total production in the United States of 139,897 tons :

OFFICE OF ST. JOSEPH LEAD COMPANY, }
BONNE TERRE, ST. FRANCOIS CO., MO., Nov. 7, '85. }

MR. OSCAR KOCHTITZKY, *Commissioner Labor, etc., Jefferson City, Mo.*

DEAR SIR: In reply to yours of the 29 ultimo, requesting information as to the number of laborers employed by us, wages paid, and output of lead for one year. We employ from six hundred to eight hundred men. The wages vary from one dollar, for common labor (about two men in all), to two dollars and fifty cents; a few men get more.

Our entire work is based upon the eight-hours-per-day system.

Our output for the year ending April 30, 1885, was 9,648 tons of lead.

We endeavor to supplement the wages of our employes, by securing for them medical attendance and hospital accommodations, giving them a choice of either of four regular physicians and surgeons, at a cost of six dollars a year for single men and twelve dollars for a man of family. These services and the facilities and advantages of the hospital are available to every man in our employ, who chooses to have the same.

We seek to keep down the cost of market supplies and other necessities of living, to our men, as far as possible.

It would give us pleasure to receive a visit from you at your convenience, when we will cheerfully add any information you desire to the items herein referred to. I am

Very respectfully yours,

J. WYMAN JONES,

President.

OFFICE OF ROWLAND HAZARD, }
MINE LA MOTTE, MADISON Co., Mo., Jan. 6, '86. }

OECAR KOCHTITZKY, Esq., *Commissioner, Jefferson City, Mo.:*

DEAR SIR: Replying to yours of Oct. 29, last, our production of "Anchor" lead for the year 1885 was 76,171 pigs, at eighty pounds per pig, 6,093,680 pounds.

Our pay-rolls, semi-monthly, show an average of 325 names. Wages range from ninety cents to two dollars and fifty cents per diem. Miners working for themselves, selling us their mineral, and miners working on contract can earn more than the maximum.

Yours truly,

W. B. COGSWELL,

Agent.

CONVICT LABOR.

THE MISSOURI PENITENTIARY.

We are indebted to Warden Col. D. W. Marmaduke, and Chief Clerk Capt. Geo. Harper for the following statistical information concerning the employment of the convicts in the Missouri Penitentiary at Jefferson City:

PRISON REPORT.

Prisoners confined in Missouri State Penitentiary, November 14, 1885, males, 1,558; females, 32. Total, 1,590.

PRISON REPORT—CONTINUED.—CONTRACTS EXISTING NOVEMBER 14, 1885.

No. of hours constituting day, 8 hrs., 25 m.

Contractor.	Class of goods manufactured.	No. of men contracted for, and terms.	No. of men worked Nov. 14, 1885.....	Date of contract.	Term.
J. S. Sullivan Sad. Tree Co.	Saddle Trees.....	100 men absolute, at 45c.; up to 200, 40c.; all over, 50c....	137	June 30, 1884....	5 years.
Jacob Straus Saddlery Co.	Harness & Saddlery.	125 " " at 45c.; up to 145, 40c.; and all over 200 50c.; up to 200, 40c.....	154	July 27, 1881....	"
Giesecke Boot & Shoe Co.	Boots & Shoes...	{ 140 men absolute at 45c.; all over 30c } 2 contracts... 60 men absolute at 50c.; all over 50c }	196	{ Dec. 31, 1884. April 30, 1884 } 2 years.	"
Jefferson Shoe Co.	" "	100 men absolute at 50c.; up to 140, 45c.; all over 50c....	104	July 1, 1883....	5 years.
Standard Shoe Co.	" "	60 men absolute at 45c.; all over 50c.....	91	Dec. 31, 1884....	"
A. Priesmeyer	" "	60 men absolute at 50c.; all over 50c.....	99	Jan. 1, 1885....	"
Max Raux	Clothing.....	30 men absolute at 50c.; all over 50c.....	51	Nov. 14, 1884....	"
No. of contractors... 7		675 men absolute.....	833.		

In stating the number of men contracted for, the term "absolute" is the number contracted for whether worked or not, and must be paid for each day at the given rate per day, whether worked or not.

A QUESTION TO BE CONSIDERED.

Considerable complaint has for years been made by mechanics employed in the manufacture of that kind of articles which are produced by convict labor in the penitentiary, it being claimed that the manufacture of such articles creates unfair competition with free or square labor. The opposition from this source, to the employment of convicts under contract, has created a public prejudice, under the influence of which the convict contract system has been abolished in various States; but as yet no other way has been discovered in any of those States by which the convicts could be beneficially employed. In the State of New York hundreds of convicts are idle, and in New Jersey an attempt is being made to substitute for the convict contract system a system by which the State sells, at a stipulated price, per piece, all goods manufactured by convicts. But this mode finds considerable opposition, as it has a tendency to rather increase than decrease the production of such articles, and thereby defeat the very object for which the law prohibiting contract labor in the penitentiary was passed. Under this system the State would become the manufacturer, assuming all risks connected therewith, and the present contractor would be the purchaser without any risk of loss of raw material, etc., and at a perhaps not increased price, and competition would go on as heretofore.

In some States propositions are made to employ convicts on public roads, in such parts of the State where required, but for many reasons this would be impracticable, especially on account of the safe keeping of the prisoners, on account of expenses, and the general opposition of the people to having convicts brought among them for any kind of work. The results of the law abolishing the convict contract system in New York, Ohio, New Jersey and other States ought to be closely observed before hasty legislation is enacted on this subject.

A system under which the number of convicts in the penitentiary could be reduced, and at the same time adequate punishment administered to all law breakers, would materially help to solve the question.

A large number of convicts are sentenced for a short term, as will be fully seen by the following statement of the terms of sentence of the convicts now in our State prison:

Term of Sentence.	Number.	Rate per cent.
2 years.....	509	31.51
3 years.....	263	16.30
4 years.....	110	6.87
5 years.....	279	17.33
10 years.....	149	9.24
6 years.....	31	1.92
7 years.....	41	2.50
8 years.....	23	1.41
9, 11, 12, 13 and 14 years.....	46	2.89
15 years.....	32	1.99
16, 17, 18 and 19 years.....	4	.26
20 years.....	27	1.67
21, 22, 23 and 24 years.....	7	.46
25 years.....	17	1.03
30 to 99 years.....	39	2.44
Life.....	21	1.27
Insane, U. S.....	9	.58
Insane.....	5	.33
Total Dec. 31, 1885.....	1,612	100.00

Many of these short term men are sentenced on account of small offenses, and become inured to crime by being compelled to associate with old and experienced criminals. If the criminal code could be so amended as to keep this class from the Penitentiary, and punish them by confinement in the county jails at hard labor, they could cheaply and advantageously be employed on public roads, public improvements, or at such other work as the county courts might direct. In this way the number of convicts could be reduced, the labor of the remainder of the convicts, on account of the scarcity of the supply of this class of labor, would command higher prices, and thereby increase the price of the manufactured article, which to a great extent would cause a decrease in competition.

RAILWAY STATISTICS.

RAILWAY COMPANIES' REPORTS.

On the following pages will be found the reports made to this Bureau by various Railway Companies operating in this State. It is to be regretted that the list is incomplete through the negligence or indifference of some leading companies which have failed altogether to give desired information.

STATEMENT SHOWING NUMBER OF MEN EMPLOYED AND AVERAGE SALARIES PAID FOR EACH ROAD IN THE STATE OF MISSOURI, BASED ON NOV., 1884, FIGURES.

	Mo. Pac. R'y.		M., K. & T. R'y.		St. L., I. Mt. & So. R'y.		Total.	
	Number of men.	Average salary.	Number of men.	Average salary.	Number of men.	Average salary.	Number of men.	Average salary.
Road department.....	757	\$37 07	215	\$39 30	335	\$39 26	1,307	\$38 00
Bridges and buildings department.....	128	54 00	37	49 18	62	59 60	227	54 80
Station and yard service.....	934	53 33	226	57 20	525	50 81	1,685	53 06
Conductors, brakemen, etc.....	334	61 70	155	65 58	212	65 70	701	63 77
Motive power and car departments.....	947	63 92	273	65 28	546	62 81	1,766	63 79
Total.....	3,100	\$53 53	906	\$56 49	1,680	\$54 61	5,686	\$54 32
General officers.....	28	\$206 30	20	\$209 97	26	\$206 70	74	\$207 43
General office clerks.....	136	69 63	116	69 48	119	69 31	371	69 48
Total.....	164	\$92 96	136	\$90 14	145	\$93 95	445	\$92 42
Grand total.....	3,264	\$55 51	1,042	\$60 88	1,825	\$57 74	6,131	\$57 08

H. M. HOXIE, Vice-President.

EMPLOYEES IN MISSOURI—WABASH, ST. LOUIS & PACIFIC RAILWAY.

ST. LOUIS, Dec. 12, 1885.

OSCAR KOCHKITZKY, Esq., *Commissioner of Labor*:

DEAR SIR: Referring to your favor of October 30th, asking for certain information in connection with number of employes and average salaries paid on this line, in State of Missouri, enclosed herewith find statement as required, Please note explanation of Auditor Howard as to delay in same.

Yours truly,
A. A. TALMAGE,
General Manager.

	No. employes.	Average sal- aries.
General officers.....	19	\$5,784 21
Assistants and division superintendents.....	3	2,366 66
Civil engineers, superintendents bridges and buildings..	7	2,102 86
Master mechanics.....	6	1,980 00
Master transportation, road masters and bridge foremen.	13	1,644 62
Clerks.....	474	808 24
Machinists.....	170	796 22
Passenger conductors.....	30	1,128 00
Freight conductors.....	65	1,080 00
Engineers.....	102	1,340 52
Firemen.....	107	742 80
Wipers and Hostlers.....	79	517 50
Baggagemen.....	36	504 00
Brakemen.....	181	661 38
Station agents not telegraph operators.....	36	816 00
Station agents also telegraph operators.....	70	617 04
Telegraph operators not station agents.....	82	640 04
Carpenters.....	181	765 84
Section foremen.....	143	622 29
Section men.....	804	370 63
Laborers.....	268	437 57

EMPLOYEES IN MISSOURI—CONTINUED.

	No. employees.	Average sal- aries.
Switchmen and watchmen.....	132	\$617 38
Bridgetenders and pumpmen.....	41	455 40
Other employes.....	194	555 00
Total employes and average salaries.....	3,243	\$1,139 76

NOTE.—The figures for general officers are for the entire system in all the States.

KANSAS CITY, FT. SCOTT & GULF—KANSAS CITY, SPRINGFIELD & MEMPHIS, AND KANSAS CITY, CLINTON & SPRINGFIELD RAILWAY COMPANIES.

KANSAS CITY, Dec. 11th, 1885.

OSCAR KOCHTITZKY, Esq., *Commissioner of Labor Statistics, Jefferson City, Mo.:*

DEAR SIR: Below I give the information asked for in yours of the 29th October, as to number, position and compensation of all employes of the Kansas City, Ft. Scott & Gulf R. R., Kansas City, Springfield & Memphis R. R. and Kansas City, Clinton & Springfield Railway Companies, in the State of Missouri, in the form suggested:

KANSAS CITY, FORT SCOTT & GULF—KANSAS CITY, SPRINGFIELD &
MEMPHIS, AND KANSAS CITY, CLINTON & SPRINGFIELD RAIL-
WAY COMPANIES—CONTINUED.

Class.	Number employed	Average salaries.
General officers.....	10	\$3,900 00
Assistant and division superintendents.....	2	2,400 00
Civil engineers.....	10	1,680 00
Master mechanics.....	1	3,000 00
Road masters and bridge foremen.....	13	1,200 00
Clerks.....	164	750 00
Machinists.....	140	830 00
Passenger conductors.....	10	1,200 00
Freight conductors.....	36	960 00
Locomotive engineers.....	69	1,300 00
Firemen.....	69	650 00
Wipers.....	37	480 00
Baggagemen.....	9	600 00
Brakemen.....	143	600 00
Station agents, not telegraph operators.....	11	600 00
Station agents, also telegraph operators.....	41	480 00
Telegraph operators, not station agents.....	20	720 00
Carpenters.....	111	800 00
Section foremen.....	61	540 00
Section men.....	497	425 00
Laborers.....	253	425 00
Switchmen and watchmen.....	42	480 00
Bridge tenders and pump men.....	22	600 00
Other employes.....	57	583 00
Total employes and average salaries.....	1,827	\$658 00

Very truly yours,

GEO. H. NETTLETON,

General Manager.

ST. LOUIS, KEOKUK & NORTHWESTERN RAILWAY.

KEOKUK, IOWA, November 25, 1885.

Commissioner Labor Statistics, State of Missouri, Jefferson City:

DEAR SIR: As requested in your letter of October 30, I hand you herewith statement of the number, positions and pay of railroad employes of these lines.

As far as possible, we have shown employes separately, but you will notice that in some instances they include the whole line.

Yours truly,

R. LAW,
General Superintendent.

STATEMENT SHOWING THE AVERAGE NUMBER OF MEN EMPLOYED
AND THEIR YEARLY SALARY.

Class.	Number employed	Yearly salary.
General officers.....	6	\$3,100 00
Civil engineers.....	1	1,500 00
Master mechanics.....	1	1,800 00
Roadmasters and bridge foremen.....	7	934 20
Clerks.....	34	695 00
Machinists.....	20	756 00
Passenger conductors.....	5	1,200 00
Freight conductors.....	8	825 00
Passenger engineers.....	5	1,300 00
Freight engineers.....	8	1,300 00
Firemen.....	15	660 00
Wipers and hostlers.....	18	540 00
Baggagemen.....	8	600 00
Brakemen.....	21	540 00
Station agents, also operators (Missouri).....	15	444 00
Station agents, not operators (Missouri).....	3	780 00
Operators, not agents.....	10	732 00

ST. LOUIS, KEOKUK & NORTHWESTERN RAILWAY.—CONTINUED.

Class.	Number employed	Yearly salary.
Carpenters.....	90	552 00
Section foremen (Missouri).....	23	487 00
Section men (Missouri).....	120	340 00
Laborers.....	120	390 00
Switchmen and watchmen.....	16	555 00
Bridge watchmen and water men.....	6	400 00
Soliciting agents.....	1	900 00
Traveling passenger agents.....	1	1,380 00
Contracting agents.....	1	1,500 00
Painters.....	4	600 00
Extra gang foremen.....	5	720 00

NOTE.—The above figures are for the entire line, except where Missouri is stated.

CHICAGO, BURLINGTON & KANSAS CITY RAILROAD COMPANY.

CHICAGO, ILL., November 21, 1885.

HON. OSCAR KOCHTITZKY, *Commissioner Labor Statistics and Inspection, Jefferson City, Mo.:*

DEAR SIR: Replying to yours of the 30th ult. to Mr. C. H. Chappell, General Manager, I herewith hand you statement requested.

Very respectfully,

CHAUNCEY KELSEY, Auditor.

Statement showing the average number of men employed and their yearly salary.

CLASS.	Number employed	Yearly salary.
General officers.....	6	\$3,100 00
Civil engineers.....	1	1,500 00
Master mechanic.....	1	1,800 00
Roadmasters and bridge foremen.....	7	934 00
Passenger conductors.....	2	1,080 00
Freight conductors.....	7	720 00
Passenger engineers.....	3	1,300 00
Freight engineers.....	8	1,300 00
Firemen.....	11	660 00
Wipers.....	7	540 00
Baggagemen.....	2	600 00.
Brakemen.....	15	540 00
Agents also operators, (Missouri).....	12	490 00
Agents not operators, (Missouri).....	1	900 00
Operators not agents, (Missouri).....	1	540 00
Carpenters.....	64	552 00
Section foreman, (Missouri).....	20	480 00
Section men, (Missouri).....	75	340 00
Laborers.....	20	360 00
Bridge watchmen and water men.	9	440 00
Soliciting agents.....	1	900 00
Extra gang foreman.....	2	660 00

NOTE.—The above figures are for the entire line except where Missouri is stated.

THE CHICAGO & ALTON RAILROAD CO.

Statement of estimated number of men employed in the State of Missouri by the Chicago & Alton R. R. Co. and average annual salaries.

How employed.	Number employed.	Average Salaries.
Civil engineers.....	2	\$1,200
Division and assistant superintendents.....	1	2,100
Foreman machine shops and car repairs.....	5	1,143
Road masters.....	2	1,500
Clerks.....	32	705
Machinists and shop men.....	13	606
Passenger conductors.....	8	1,200
Freight conductors.....	39	900
Passenger engineers.....	12	1,500
Freight engineers.....	38	1,840
Firemen.....	50	993
Wipers, etc.....	46	483
Baggagemen—train and station.....	14	447
Brakemen.....	79	600
Station agents, not telegraph operators.....	14	755
Station agents, also telegraph operators.....	32	480
Telegraph operators, not station agents.....	29	620
Carpenters.....	42	684
Section foremen.....	70	586
Section men.....	288	411
Laborers.....	386	500
Switchmen and watchmen.....	34	658
Bridge tenders and pumpers.....	13	518
Other employes.....	110	976
Total employed and average salaries.....	1,359	\$635
Average yearly salaries paid in Missouri.....		\$863,291

STREET RAILWAY REPORTS.

STREET RAILWAY COMPANIES.

With some notable exceptions, the street railway companies in **Missouri** have promptly reported, as requested, to this Bureau, and their reports will be found on the next succeeding pages.

ST. LOUIS RAILROAD COMPANY.

St. Louis, December 14, 1885.

HON. O. KOCHTITZKY, *Labor Commissioner*:

DEAR SIR: I send herewith a statement of the men employed by this company, the wages paid, etc.

Yours respectfully,

R. B. JENNINGS, Sec'y.

Employees—Occupation.	No. employed...	Wages per day...	Wages per week.	Hours employed.
Stable foremen.....	2	.....	\$20 00	....
Hostlers.....	40	\$1 50	.....	12
Horseshoers.....	4	.....	18 00	10
Watchmen.....	7	2 00	.....	12
Engineer.....	1	.....	18 00	10
Mill-men.....	3	1 75	.....	10
Harnessmaker.....	1	.....	15 00	10
Feeders.....	4	.....	11 00	10
Changers.....	8	1 50	.....	10
Feed-car driver.....	1	1 50	.....	10
"Hill" man.....	1	1 65	.....	10
Track foremen.....	1	.....	23 10	10
Track repairers.....	15	1 75	.....	10
Foremen, car repairs.....	1	.....	25 00	10
Carpenters.....	1	2 75	.....	10
Carpenters.....	3	2 50	.....	10
Painter.....	1	2 75	.....	10
Painter.....	3	2 25	.....	10
Blacksmith.....	1	2 50	.....	10
Blacksmith.....	1	1 75	.....	10
Lamp cleaner.....	1	.....	12 00	10
Starters.....	2	.....	15 00	12
Conductors.....	52	40 and 50c. per trip.	.....	...
Drivers.....	52	33 and 40c. per trip.	.....	...

PEOPLE'S RAILWAY.

ST. LOUIS, November 10, 1885.

To the Commissioner of Labor Statistics:

DEAR SIR: I beg leave to report that the following are the number of men employed by the People's Railway Co., St. Louis, number of hours worked, etc., for year 1885:

Employees—Occupation.	No. employed..	Wages per day.	Average employ- ment hours....
Foremen.....	1	\$2 65	12
Conductors 32 and 1 night car man.....	33	2 00	12:20
Drivers.....	32	1 65	12:20
Hostlers.....	23	1 50	12
Car-house men.....			
Tracklayers.....	3	1 83	10
Starters.....			
Blacksmiths.....	3	2 83	10
Watchmen.....	2	2 00	12
Painters.....	2	2 50	10
Carpenters.....	3	2 78	10
Clerks.....	1	1 67	10
Engineers.....	1	2 50	10
Millers.....			
Feeders.....	2	1 75	10
Saddlers.....	1	2 00	10

Very respectfully,

JNO. MAHONEY, Sec'y.

TOWER GROVE AND LAFAYETTE RAILWAY.

St. Louis, November 10, 1885.

To the Commissioner of Labor Statistics, Jefferson City, Mo.:

DEAR SIR: I beg leave to report that the following are the number of men employed, etc., by the Tower Grove and Lafayette Railway Co., St. Louis:

Employees—Occupation.	No. employed..	Wages per day.	Average employ- ment hours....
Foremen.....	1	\$2 50	12
Conductors.....	18	2 00	12:20
Drivers.....			
Hostlers.....	8	1 50	12
Car-house men.....			
Tracklayers.....	2	1 75	10
Starters.....			
Blacksmiths.....	2	2 15	10
Watchmen.....	1	1 75	12
Painters.....			
Carpenters.....			
Clerks.....			
Engineers.....			
Millers.....			
Feeders.....	1	1 50	10
Saddlers.....			

Very respectfully,
JNO. MAHONEY, Sec'y.

CASS AVENUE & FAIR GROUND RAILWAY COMPANY.

St. Louis, Nov 6, 1885.

HON. O. KOCHTITZKY, *Labor Commissioner, Jefferson City, Mo.:*

DEAR SIR: In compliance with your request for information concerning wages, hours of service, etc., of this company's employes, I beg to report as follows:

30 conductors employed, average hours, $12\frac{1}{2}$; wages, \$2.00 per day.

30 drivers employed, average $12\frac{1}{2}$ hours; wages, \$1.60 per day.

20 hostlers, wages per day.....	\$1 50	Hours service.....	12
1 feeder, wages per day.....	1 75	“ “	12
1 asst. feeder, wages per day...	1 50	“ “	12
1 watchman, wages per day....	1 75	“ “	12
1 asst. watchm'n, wages per day	1 50	“ “	12
1 roadman, wages per day.....	1 75	“ “	10
3 asst. roadmen, wages per day	1 50	“ “	10
1 blacksmith, wages per day....	2 50	“ “	10
1 asst. blacks'th, wages per day.	1 75	“ “	10
1 carpenter, wages per day.....	3 00	“ “	10
2 carpenters, wages per day	2 00	“ “	10
1 saddler, wages per day.....	2 00	“ “	10
1 foreman, wages per month ...	100 00	.....

Respectfully,

G. G. GIBSON,

Superintendent.

LINDELL RAILWAY COMPANY.

ST. LOUIS, Nov. 6, 1885.

HON. O. KOCHTITZKY, *Commissioner of Labor, Jefferson, City, Mo.:*

DEAR SIR: Enclosed please find statement of number of employes of Lindell Railway Company, together with respective hours worked and salary paid.

Yours truly,

GEO. W. BAUMHOFF,

Secretary.

Employees—Occupation.	No. employes..	Wages.	Average employ- ment hours...
Foremen.....	2	\$100 00 per month....	12
“	1	60 00 “	12
Conductors.....	68	1 85 per day.....	12½
Drivers.....	21	1 65 “	12½
Hostlers.....	45	1 50 “	12
Car-house men.....	3	1 75 “	12
Tracklayers.....	6	1 75-2 00 “	10
Blacksmiths.....	5	2 75-3 00 “	10
Watchmen.....	3	2 00 “	12
Carpenters.....	3	2 75 “	10
Saddlers.....	1	2 50 “	10

The hours named include the hours for meals, except those marked ten hours.

Yours truly,

JOHN H. MAXON,

President Lindell Railway Company.

CITIZENS' RAILWAY COMPANY.

Employees—Occupation.	No. employed...	Wages per day.	Average employ- ment hours...
Foremen	1	\$2 85	12
Conductors.....	55	2 00	*11:30
Drivers.....	48	1 62½	*11:30
Hostlers	28	1 50	11
Car-house men	5	2 36	.....
Tracklayers.....	6	1 93	10
Starters			
Blacksmiths.....	4	3 08	10
Watchmen.....	3	1 87	10

GEO. KAUFHOLD,
Secretary.

*Meal hours included.

MISSOURI RAILWAY COMPANY.

St. Louis, November 9th, 1885,

HON. O. KOCHTITZKY, *Jefferson City, Mo :*

DEAR SIR—Herewith I enclose statement of number of men, wages and work hours as requested.

The two lines of this company are under one management, and the pay being the same for the same work on both roads, and the accounts being kept together, I have not separated the returns.

Yours truly,

P. C. MAFFITT,

President.

Employees—Occupation.	No. employed...	Wages.....	Average employ- ment hours....
Foremen	2	\$3 33	
Conductors	56	2 03	12:20
Drivers	58	1 68	12:20
Hostlers	47	1 50	12
Car-house men	8	1 70	12
Track-layers	11	1 50	10
Starters	2	2 50	
Blacksmiths	1	2 88	10
Watchmen	6	1 50	10
Blacksmith helpers	2	2 25	10
Track foremen	1	2 50	10
Car repairer	1	3 00	10
Car repairer helpers	2	2 25	10

The time given for all, except 10-hour men, include meal hours.

**CORRIGAN CONSOLIDATED STREET RAILWAY COMPANY, KANSAS
CITY, MO.**

Capital invested.....	\$1,000,000 00
Earnings for last fiscal year.....	200,000 00
Average number of persons employed.....	150
Average monthly earnings of employes.....	\$35 00—50 00
Number men employed.....	125
Number boys employed.....	25
Highest wages to men per week.....	\$30 00
Lowest wages to men per week.....	9 00
Average daily earnings of men.....	1 50
Average daily wages of boys.....	1 00
Average number hours worked a day.....	16

CORRIGAN CONSOLIDATED STREET RAILWAY CO ,
J. T. KELLY, Secretary.

UNION RAILWAY COMPANY, (ST. JOSEPH).

OSCAR KOCHTITZKY, *Jefferson City, Mo.:*

DEAR SIR—In response to your inquiries made November 2, I would say :

	Union.	Citizens.	Frederick Avenue.
Length of roads.....	5 miles.	2½ miles.	1½ miles.
No. of miles of track.....	9 miles	3½ miles.	2 miles.
Number of cars.....	24	11	7
Number of animals.....	107	50	20
Number of employes	35	15	9
Aggregate wages paid by all companies.....			\$32,400
Number of full fare passengers carried.....			1,284,460

I don't know just exactly the division of labor in the other two lines, but for the Union Railway Company of St. Joseph, Mo., it is as follows :

Superintendent.....	1
Foreman.....	1
Conductors (none, run fareboxes).....	
Drivers.....	16
Hostlers.....	11
Tracklayers.....	2
Watchmen.....	1
Blacksmith.....	1
Clerk.....	1
Feeder.....	1
Total.....	35

(These figures are for 1885, two months, November and December, being estimated.)

Trusting same will reach you in due time and be satisfactory,
I am yours etc.,

A. STEINACKER,

Secretary Union Railway Co.

HANNIBAL STREET RAILWAY COMPANY.

HANNIBAL, Mo., Nov. 12, 1885.

Commissioner of Labor Statistics, Jefferson City, Mo.:

DEAR SIR: Yours of November 2d received and contents noted, and in reply would state that the following is a list of employes and wages:

Five street car drivers at \$1.35 per day.

Two street car conductors at \$1.35 per day.

Two stable-men at \$1.50 per day.

Yours respectfully,

HANNIBAL ST. R'Y CO.

JAS. O'HERN, Sec'y.

JOPLIN STREET RAILROAD COMPANY.

(JOPLIN, Mo)

Employees—Occupation.	No. of employes.	Wages.....	Average employ- ment hours....
Foremen.....—.....	1	.....	10
Conductors.....	.....	.....	.....
Drivers.....	3	\$25 00 per mo..	10
Hostlers.....	1	40 00 per mo..	10
Tracklayers.....	3	\$1 50 per day.	10
Starters.....	.....	.....	.....
Blacksmiths.....	.....	.....	.....
Watchmen.....	.....	.....	.....
Carpenters.....	1	2 00 per day.	8
Saddlers.....	.....	.....	.....

ST. LOUIS FIRE DEPARTMENT.

St. Louis, November 16, 1885.

Commissioner of Labor Statistics and Inspection, Jefferson City, Mo.:

SIR: In compliance with your request I beg leave to state that the Fire Department of the city of St. Louis at the present time is composed of twenty-five steam fire engine companies, seven hook and ladder companies, five large chemical engine companies, six fuel wagons, one tool wagon, 30,000 feet $2\frac{1}{2}$ inch rubber and cotton hose, 170 horses and 331 men.

Officers.—One chief, one 1st assistant chief and four assistant chiefs, one secretary and one veterinary surgeon.

Salaries.	Per annum.
Chief.....	\$3,000 00
First Assistant Chief.....	1,800 00
Four assistant chiefs, each.....	1,600 00
Secretary.....	1,350 00
Veterinary surgeon.....	1,200 00
Engineers of engines.....	1,200 00
Foremen of companies.....	1,020 00
All other members except watchmen.....	960 00
Watchmen, each.....	840 00

The cost of the department for the fiscal year ending March 31, 1886, will be about \$125,000.

Respectfully,

JOHN LINDSAY,

Chief Fire Department.

MISSOURI LABOR LAWS.

STATE LAWS RELATING TO LABOR.

In consequence of the continual demand being made upon this Bureau by workingmen for copies of the various laws of Missouri relating to labor and its protection, and it being impossible to supply all with Statutes and Session Acts, I have deemed it best to include them all in this report on the succeeding pages. A part of these laws were printed in the last report of this Bureau, and the collection of them all here in convenient form will enable me to supply the demands made upon me and make accessible to those desiring information the full text of the laws:

THE EIGHT HOURS LAW.

SEC 6101, R. S. *Eight hours constitute a day's labor, when.*—From and after the first day of May, in the year eighteen hundred and sixty-seven, the period of eight hours shall be and constitute a legal day's work; but nothing in this section shall be so construed as to prevent parties to any contract for work, services or labor, from agreeing upon a longer or shorter time. This section shall not apply to persons hired or employed by the month, nor to laborers or farm hands in the service of farmers or others engaged in agriculture.

APPRENTICE LAWS.

SEC. 4074. *Minors may be bound, when.*—All minors may be bound as apprentices to some appropriate industry, art, calling or trade—males to the age of twenty-one years and females to the age of eighteen, or to the time of their marriage within that age, in the manner prescribed in this chapter.

SEC. 4075. *By whom bound*—Minors under the age of fourteen years may be bound by their father, or, in case of his death, incompetency, or where he shall have willfully abandoned his family for six

months without making suitable provisions for their support, or has become an habitual drunkard, by their mother or by their legal guardian; and, if illegitimate, they may be bound by their mother; and if they have no parent competent to act, and no guardian, they may bind themselves, with the approbation of the probate court of the county where they reside; but the power of a mother to bind her children, whether legitimate or illegitimate, shall cease upon her subsequent marriage, and shall not be exercised by herself or her husband at any time during such marriage.

SEC. 4076. *Minors above the age of fourteen years.*—Minors above the age of fourteen years may be bound in the same manner; provided, that when they are bound by their parent or guardian, the consent of the minor shall be expressed in the indenture, and testified by his signing the same.

SEC. 4077. *Executor may bind infant, when.*—The executor who, by the will of a father, is directed to bring up his child in some trade or calling, shall have the power to bind such child, by indenture, in like manner as the father, if living, might have done, or shall raise such child according to such direction.

SEC. 4078. *Probate court, when.*—When any poor child is, or may be, chargeable to the county, or shall beg for alms, or when the parents of such children are poor, and the father an habitual drunkard, or, if there be no father, when the mother is of bad character, or suffer her children to grow up in habits of idleness, without any visible means of obtaining an honest livelihood, it shall be lawful for the probate court to bind such child an apprentice until, if male, he arrives at the age of twenty-one years, and if female to the age of eighteen years.

SEC. 4079. *Guardian, when.*—Every orphan minor, who has estate not sufficient for his maintenance, may be bound by his guardian, under the order and direction of the probate court; and the indenture binding such minor shall be as effectual as if such minor were of full age; and the counterpart of such indenture shall, for the benefit of the minor so bound, be deposited with the clerk of the probate court in which such binding shall take place, for safe keeping.

SEC. 4080. *Incapacity, etc., how decided.*—Facts of incapacity, desertion or drunkenness shall be decided in the probate court, by the judge thereof, or by a jury, if one be demanded, before the indenture shall take effect; and an indorsement on the indenture, under the seal of the court, that the same are proved, shall be sufficient evidence of the mother's or guardian's power to give such consent; but if the judge or jury do not find the charge of incapacity, drunkenness or indiscretion to be true, the person at whose instance such proceedings may have been had shall pay all costs attending the same.

SEC. 4081. *No minor bound unless by indenture.*—No minor shall be bound, as aforesaid, unless by an indenture of two parts, sealed and delivered by both parties, and when made with the approbation of the probate court, or the judge thereof in vacation, its approbation shall be certified in writing, indorsed upon each part of the indenture.

SEC. 4082. *Indenture, where deposited.*—One part of the indenture shall be kept for the use of the minor, by his parent or guardian, when executed by them respectively; and when made with the approbation of the probate court, shall be deposited with the clerk, and be safely kept in his office for the use of the minor.

SEC. 4083. *Age of apprentices to be inserted.*—The age of every apprentice shall be inserted in the indentures; and all indentures entered into otherwise than as herein provided, shall be, as to all apprentice under age, utterly void.

SEC. 4084. *Covenants in indenture.*—In all indentures by the probate court for binding out any orphan or poor child as an apprentice, there shall be inserted, among other covenants, a clause to the following effect: That the master to whom such minor is bound, shall cause to be given to such minor a common school education, and at the expiration of such apprenticeship shall give such apprentice a new bible and two new suits of clothes, to be worth fifty dollars, and twenty dollars in current money of the United States.

SEC. 4085. *Indenture void on death of master.*—No indenture of apprenticeship or service, made in pursuance of this chapter, shall bind the minor after the death of his master, but the apprenticeship or service shall be thenceforth discharged, and the minor may be bound out anew.

SEC. 4086. *Treatment of apprentices.*—Parents and guardians and the probate court shall inquire into the treatment of the children bound by them, respectively, or with their approbation, and of all who shall have been bound by or with the approbation of their predecessors in office, and defend them from all cruelty, neglect and breach of contract on the part of their masters.

SEC. 4087. *Complaints by and against apprentices, how inquired into.*—The probate court shall hear the complaints of apprentices who reside within the county, against their masters, alleging undeserved or immoderate correction, insufficient allowance of food, raiment or lodging, want of instruction in their trade or calling, or that they are in danger of being removed out of this State, or the violation of the indenture or apprenticeship, and may hear and determine such cases by a jury or otherwise, and make such order therein as will relieve the party injured in future.

SEC. 4088. *Proceedings when apprentice quits service.*—The probate court shall also be empowered, upon complaint being filed by the master, that an apprentice has, without cause, left his service, to cause the same to be inquired into by a jury or otherwise, and make such order or orders in the premises as may be just and proper.

SEC. 4089. *Power of court to discharge apprentice.*—The probate court shall have power, when circumstances require it, to discharge an apprentice from his apprenticeship; and, in case any money or other thing has been paid, by either party in relation to such apprenticeship, the court shall make such order concerning the same as shall seem just and reasonable. If the apprentice so discharged shall have been originally bound by the probate court, it shall be the duty of the court, if they judge necessary, again to bind such apprentice, if under age.

SEC. 4090. *Master liable to action in covenants in indenture.*—Every master shall be liable to an action on the indenture for the breach of covenant on his part therein contained; and all damages recovered in such action, after deducting the necessary charges in prosecuting the same, shall be the property of the minor, and shall be applied and appropriated to his use by the person who shall recover the same, and shall be paid to the minor, if male, at the age of twenty-one years, and if female, at the age of eighteen years, or at the time of her marriage within that age.

SEC. 4091. *Limitation of action.*—If such action is not brought during the minority of such apprentice, he may commence such action in his own name, at any time within two years after he becomes of age, and not after.

SEC. 4092. *Proceedings against apprentice.*—If any such apprentice shall be guilty of any gross misbehavior, or refusal to do his duty, or willful neglect thereof, his master may make his complaint to the probate court of the county in which he resides, setting forth the circumstances of the case, to which complaint shall be attached a citation, signed by the clerk of such court, requiring the apprentice and all persons who have covenanted on his behalf, to appear and answer to such complaint, which complaint and citation shall be served on them in the usual manner of serving civil process.

SEC. 4093. *Power and duties of courts.*—The court shall proceed to hear and determine the cause, with or without a jury, and after a full hearing of the parties, or of the complainant alone, if the adverse party shall neglect to appear after due notice, the court may render judgment or decree that the master be discharged from the contract of apprenticeship or service, and for the costs of the suit; such costs to be recovered of the parent or guardian of the minor, if there be any, who

signed the indenture, and execution be issued therefor accordingly; and if there be no parent or guardian liable for such costs, execution may be issued therefor against the minor, or the amount thereof may be recovered in an action against him after he shall arrive at full age; and any minor discharged as aforesaid may be bound out anew.

SEC. 4094. *Parties to indenture liable to master, when.*—The parties to such indentures shall also be liable to the master, in an action on the indenture, for the breach of any covenant on their part therein contained, committed before the master was so discharged from such indenture.

SEC. 4095. *Apprentice, when liable.*—If any such apprentice shall willfully absent himself from the service of his master, or shall run away, so that the master shall be deprived of his services during the remainder of the term, or any part thereof, for which he was bound to serve, or shall violate any of the stipulations in said indenture, the master may recover such damages as he has sustained thereby, in an action against such minor; provided, there is no other person liable in such indenture thereof.

SEC. 4096. *Proceedings under discharge, etc.*—When any apprentice, or master, shall be discharged from any indenture, in pursuance of the provisions of this chapter, and any sum of money shall have been paid or agreed for by either party on the execution of said indenture, the court may, at the time they discharge such person from the indenture, also order such sum of money, or any part thereof, as the equity of the case may require, to be refunded, if paid to him who advanced the same, or his personal representative; and if not paid, they may, by order, discharge the same, and direct any securities that may have been given therefor to be delivered up or canceled.

SEC. 4097. *Penalty for enticing apprentice away.*—Every person who shall counsel, persuade, entice or assist any apprentice to run away or absent himself from the service of his master, or to rebel against or assault his master, shall forfeit not less than twenty nor more than five hundred dollars, to be used for, and recovered, with costs, by such master, in any court having jurisdiction thereof.

SEC. 4098. *For harboring.*—Every person who shall entertain, harbor or conceal any apprentice, knowing such apprentice to be a run-away, or to have absented himself from the service of his master without leave, shall forfeit one dollar for every day's entertainment, harboring or concealing, to be sued for and recovered, with costs, by such master, in any court having jurisdiction thereof.

SEC. 4099. *Apprentices shall not be moved out of the State.*—It shall not be lawful for any master to remove an apprentice out of this

State. Whenever any master of an apprentice shall wish to remove out of this State, or to quit his trade or business, he shall appear with his apprentice before the probate court of the proper county, and if the court be satisfied the master has done justice to the said apprentice, for the time he has had charge of the same, such court shall have power to discharge such apprentice from the service of such master, and again bind him, if necessary, to some other person.

SEC. 4100. *Provisions of this chapter, apply to whom.*—The provisions of this chapter shall apply as well to mistresses, female guardians, apprentices and wards, respectively, as to masters, male guardians, apprentices and wards.

SEC. 4101. *Common law right not affected by this chapter.*—Nothing contained in this chapter shall prevent or affect the right of a father, by the common law, to assign or contract for the service of his children for the term of their minority, or any part thereof.

LIENS OF CONTRACTORS, MEN AND LABORERS AGAINST RAILROADS.

SEC. 3200. *Lien on railroads for work and labor and materials.*—All persons who shall do any work or labor in constructing or improving the road bed, rolling stock, station houses, depots, bridges or culverts of any railroad company, incorporated under the laws of this State, or owning or operating a railroad within this State, and all persons who shall furnish ties, fuel, bridges or materials to such railroad company, shall have, for the work done and labor performed, and for the materials furnished, a lien upon the road bed, station houses, depots, bridges, rolling stock, real estate and improvements of such railroad, upon complying with the provisions hereinafter mentioned; provided, such work and labor is performed, and such materials are furnished, under and in pursuance of a contract with such railroad company, its agents, contractors, sub contractors, lessees, trustees or construction company, organized for the uses and purposes of such railroad company, or having in charge the building, construction or improvement of such railroad or any part thereof.

SEC. 3201. *Such lien to have precedence over other incumbrances.*—The lien aforesaid shall attach to the buildings, erections, improvements, road-bed and property mentioned, from the date of the commencement of such work and labor, or from the time such materials were furnished or delivered, and shall be prior to all mortgages or incumbrances placed upon the property affected by this lien, subsequent to the passage of this article.

SEC. 3202. *Lien to be filed with circuit clerk.*—It shall be the duty of all persons claiming the benefit of such lien, within ninety days

next after the completion of the work, or after the materials were furnished, to file in the office of the circuit clerk of any county through which said railroad is located, a just and true account of the amount due, after all just credits have been given, which account shall state the amount claimed as due, the general nature of the work, amount of labor performed, or of materials furnished, the dates when the work was done, and when materials were furnished, and the place or places at which said labor and work was performed, or said materials were furnished, the name or names of the parties with whom the contract for said work or furnishing said material was made, and also the name of the railroad against which said lien is intended to apply ; and it shall be the duty of all persons claiming said lien, within said ninety days, to serve a copy of the above account on the person or corporation owning or operating or having charge of said road or of the property to which said lien attaches.

SEC. 3203. *Clerk to file abstract of lien.*—It shall be the duty of the circuit clerk to indorse upon every account the date of its filing and make an abstract thereof, in a book by him to be kept for that purpose, and properly entered and indexed, containing the date of its filing, the name of the person seeking to enforce the lien, the amount claimed, and the name of the railroad against which the lien is filed ; and it shall be the duty of circuit clerks in whose office such accounts and liens may be filed, within five days thereafter, to forward to the Secretary of State a true copy of said accounts and liens and judgments rendered thereon by the circuit courts in which the case has been tried.

SEC. 3204. *Secretary of State to file lien in his office.*—It shall be the duty of the Secretary of State to file in his office such accounts and liens, when received, and to prepare and keep in his office a book in which shall be entered an abstract of all accounts and liens filed as aforesaid ; which abstract shall be so arranged and indexed as to show, in a convenient form, the names of all parties claiming liens, the amount claimed by each, the railroad to which same applies, the date of the filing, and if discharged, when the same was done.

SEC. 3205. *Actions on liens to be brought in ninety days.*—All actions under this article shall be commenced within ninety days after filing the lien, and prosecuted without unnecessary delay to final judgment ; and no lien shall continue to exist, by virtue of the provisions of this article, for more than ninety days after the lien shall be filed, unless, within that time, an action shall be instituted thereon as hereinbefore prescribed.

SEC. 3206. *Parties to suit, who shall be.*—Any person or corporation owning or operating the railroad to which said liens may apply, shall, in each instance, be made a party defendant in all suits for enforcing said liens; but it shall not be necessary to make the party with whom the contract was made for doing the work and labor, or for furnishing of material, a party defendant in such suit; but such party or parties may, at the option of the plaintiff, be made parties defendant, in which case process may be awarded and served as other writs of summons in any county in this State.

SEC. 3207. *Pleadings, etc., to be as in other civil cases.*—The pleadings, practice, process and other proceedings, in cases arising under this article, shall be the same as in ordinary civil actions and civil proceedings in circuit courts, except as herein otherwise provided; the petition, among other things, shall allege the facts necessary for securing a lien under this article, and a description of the property charged therewith.

SEC. 3208. *Court may render judgment to amount claimed.*—The court shall ascertain by fair trial, in the usual way, the amount of the indebtedness for which the lien is prosecuted, and may render judgment therefor in any sum not exceeding the amount claimed in the demand filed with the lien, together with interests and costs, although the creditor may have unintentionally failed to enter the full amount of credits in his account filed, to which the defendant may be entitled; but no personal judgment shall be rendered thereon except as against such defendants as might be sued thereon in an ordinary action at law.

SEC. 3209. *Judgment by default.*—Judgment by default shall be rendered against every defendant, who, after being summoned or notified, according to law, shall not appear and plead or answer within the time allowed in ordinary civil actions.

SEC. 3210. *Judgment on constructive notice.*—When the defendant has not been served with a summons according to law, and has not appeared, but has been lawfully notified by publication, the judgment, if for the plaintiff, shall be that he recover the amount of the indebtedness found to be due, and costs of suit, to be levied out of the property charged with the lien therefor, which said property shall be correctly described in said judgment.

SEC. 3211. *Judgment on personal service.*—When the defendant has been served with summons according to law, or appears to the action without service, the judgment, if for the plaintiff, shall be against such defendant, as in ordinary cases, with the addition, that if no sufficient property of the defendant can be found to satisfy such judgment

and costs of suit, then the residue thereof be levied, as provided in the next preceding section.

SEC. 3212. *The plaintiff may have execution.*—The execution to be issued, shall be a special *fiery fucias*, and shall be in conformity with the judgment; and such writ shall be returnable as in ordinary executions, and the advertisement, sale and conveyance of real estate under the same shall be made as under ordinary executions.

SEC. 3213. *Satisfaction to be entered, when and how.*—Whenever any debt, which is a lien upon any building or other improvement, shall be paid and satisfied, the creditor, if required, shall acknowledge such satisfaction upon the records of the margin thereof, which satisfaction shall be certified by the clerk to the Secretary of State within ten days after the same has been entered upon the margin of the judgment of record in his office. And the clerks of the circuit courts and the Secretary of State shall receive, as full compensation for services performed by them, as is provided for under this chapter for mechanics' liens.

SEC. 3214. *Parties refusing to satisfy, penalty.*—If any creditor refuse to enter satisfaction within ten days after payment and request, as aforesaid, he shall be liable to any person injured to the amount of such injury and costs of suit.

SEC. 3215. *Proceeds, when distributed pro rata.*—In all cases where judgments have been rendered and a sale has been ordered, and the property sold to which said liens attach, the proceeds arising from such sale, if not sufficient to discharge all liens on which judgments have been rendered before such sale shall be made, shall be distributed *pro rata* upon such judgments, as if the filing of the said liens had been all of the same date; and when such judgments have been, by such sales or otherwise, wholly or partially paid and satisfied, the clerks shall enter upon the records the amount or amounts so paid, with a correct description of the real property sold, and within the time and in like manner certify the same to the Secretary of State, as heretofore provided.

SEC. 3216. *Sub contractors' lien.*—In all cases arising under the provisions of this article, where notice of lien shall be filed by a sub-contractor for work and labor performed, or materials furnished, such sub contractor, in case of suit brought to enforce lien, shall not be entitled to recover, as against the corporation or individual owning the property to which the lien applies, at any greater rate for the work and labor performed, or materials furnished, than was agreed upon between said corporation or individual and the original contractor for doing said work or furnishing the materials.

MECHANICS' LIENS.

SEC. 3172. *Mechanics and others to have liens, when*.—Every mechanic or other person who shall do or perform any labor or work upon, or furnish any materials, fixtures, engine, boiler or machinery for any building, erection or improvements upon land, or for repairing the same, under or by virtue of any contract with the owner or proprietor thereof or his agent, trustee, contractor or sub-contractor, upon complying with the provisions of this article, shall have, for his work or labor done, or materials, fixtures, engine, boiler or machinery furnished, a lien upon such building, erection or improvements, and upon the land belonging to such owner or proprietor on which the same are situated, to the extent of one acre; or, if such building, erection or improvement be upon any lot of any land in any town, city or village, then such lien shall be upon such building, erection or improvements and the lot or land upon which the same are situated, to secure the payment for such work or labor done, or materials, fixtures, engine, boiler or machinery furnished as aforesaid.

SEC. 3173. *The amount of property subject to lien*.—The entire land, to the extent aforesaid, upon which any such building, erection or other improvement is situated, including as well that part of said land which is not covered with such building, erection or other improvement, as that part thereof, which is covered with the same, shall be subject to all liens created by this article, to the extent and only to the extent of all the right, title and interest owned therein by the owner or proprietor of such building, erection or other improvement, for whose immediate use or benefit the labor was done or things were furnished.

SEC. 3174. *Priority of lien over other encumbrances*.—The lien for the things aforesaid, or work, shall attach to the buildings, erections or improvements for which they were furnished or the work was done, in preference to any prior lien or incumbrance or mortgage, upon the land upon which said buildings, erections, improvements or machinery have been erected or put; and any person enforcing such lien may have such building, erection or improvement sold under execution, and the purchaser may remove the same within a reasonable time thereafter.

SEC. 3175. *Lien in cases of leased property*.—Every building or other improvement erected, or materials furnished, according to the provisions of this article, on leased lots or lands, shall be held for the debt contracted for, or on account of same, and also the leasehold term for such lot and land on which the same is erected; and in case the

lessee shall have forfeited his lease, the purchaser of the building and leasehold term, or so much thereof as remains unexpired under the provisions of this article, shall be held to be assignees of such leasehold term, and as such shall be entitled to pay to the lessor all arrears of rent or other money, interests and costs due under said lease, unless the lessor shall have regained possession of the leasehold land or obtained judgment for the possession thereof on account of the non-compliance by the lessee with the terms of the lease, prior to the commencement of the improvements therein; in which case the purchaser of the improvements, under this article, shall have the right only to remove the improvements within sixty days after he shall purchase the same, and the owner of the ground shall receive the rent due him, payable out of the proceeds of the sale, according to the terms of the lease, down to the time of removing the building.

SEC. 3176. *Lien to be filed with circuit clerk.*—It should be the duty of every original contractor, within six months, and every journeyman and day laborer within thirty days, and of every other person seeking to obtain the benefit of the provisions of this article, within four months after the indebtedness shall have accrued, to file with the clerk of the circuit court of the proper county, a just and true account of the demand due him or them, after all just credits have been given, which is to be a lien upon such building or other improvements, and a true description of the property, or so near as to identify the same upon which the lien is intended to apply, with the name of the owner or contractor, or both, if known to the person filing the lien, which shall in all cases be verified by the oath of himself or some credible person for him.

SEC. 3177. *Clerk shall make abstract of lien.*—It shall be the duty of the clerk of the circuit court to endorse upon every account the date of its filing, and make an abstract thereof, in a book by him to be kept for that purpose, and properly endorsed and indexed, containing the date of its filing, the name of the person seeking to enforce the lien, the amount claimed, the name of the person against whose property the lien is filed, and a description of the property charged with the same, for all which the clerk shall receive as full compensation the sum of one dollar from the person filing the account or seeking to enforce the lien, which shall be taxed and collected as other costs, in case there be an action thereon.

SEC. 3178. *Lien shall have precedence over all subsequent encumbrances.*—The lien for work and materials, as aforesaid, shall be preferred to all other encumbrances which may be attached to, or upon such buildings, bridges or other improvements, or the ground, or either

of them, subsequent to the commencement of such buildings or improvements.

SEC. 3179. *Pleadings, etc., to be as in other civil cases.*—The pleadings, practice, process and other proceedings in cases arising under this article, shall be the same as in ordinary civil actions, and proceedings in circuit courts, except as herein otherwise provided. The petition, among other things, shall allege the facts necessary for securing a lien under this article, and shall contain a description of the property charged therewith.

SEC. 3180. *Who may be made parties.*—In all suits under this article, the parties to the contract shall, and all other persons interested in the matter in controversy, or in the property charged with the lien, may be made parties, but such as are not made parties will not be bound by any such proceedings.

SEC. 3181. *When administrator to be made party.*—In case of the death of any of the parties specified in the next preceding section, whether before or after suit brought, the executor or administrator of such deceased party shall be made plaintiff or defendant as the case may require, and it shall not be necessary to make the heirs or devisees of such deceased person, parties to said suit; but if there is no executor or administrator of such deceased person, then his heirs or devisees may be made parties, and if any of said heirs or devisees are minors under the age of twenty-one years, their guardians shall be made parties with them; but if such minor shall have no guardians, the court in which the suit is pending, shall appoint guardians *ad litem* for them, in the same manner and under the same rules and regulations as guardians *ad litem* are appointed in proceedings for partition of real estate, and the judgment and proceedings of such court in any such suits shall be as binding on such minors as if they were over the age of twenty-one years.

SEC. 3182. *The judgment.*—The court shall ascertain, by a fair trial in the usual way, the amount of the indebtedness for which the lien is prosecuted, and may render judgment therefor in any sum not exceeding the amount claimed in the demand filed with the lien, together with interest and costs, although the creditor may have unintentionally failed to enter in his account filed, the full amount of credits to which the debtor may be entitled.

SEC. 3183. *Judgment by default.*—Judgment shall be rendered by default against every defendant who, after being summoned or notified according to law, shall not appear and plead within the time allowed in ordinary civil actions.

SEC. 3184. *Judgment in constructive notice.*—When the debtor has not been served with summons according to law, and has not appeared,

but has been lawfully notified by publication, the judgment, if for the plaintiff, shall be that he recover the amount of the indebtedness found to be due, and costs of suit, to be levied on the property charged with the lien therefor, which said property shall be correctly described in said judgment.

SEC. 3185. *Judgment in personal service.*—When the debtor has been served with summons according to law, or appears to the action without service, the judgment, if for the plaintiff, shall be against such debtor as in ordinary cases, with the addition that if no sufficient property of the debtor can be found to satisfy such judgment and costs of suit, then the residue thereof be levied as provided in the next preceding section.

SEC. 3186. *The execution.*—The execution to be issued shall be a special *fiery facias*, and shall be in conformity with the judgment, and such writ shall be returnable as ordinary executions, and the advertisement, sale and conveyance of real or personal estate, under the same, shall be made as under ordinary executions.

SEC. 3187. *Action to be commenced in ninety days.*—All actions under this article shall be commenced within ninety days after filing the lien, and prosecuted without unnecessary delay to final judgment; and no lien shall continue to exist, by virtue of the provisions of this article, for more than ninety days after the lien shall be filed, unless within that time an action shall be instituted thereon as hereinbefore prescribed.

SEC. 3188. *Satisfaction to be entered, when.*—Whenever any debt, which is a lien upon any building or other improvement shall be paid or satisfied, the creditor, if required, shall acknowledge such satisfaction upon the record of the margin thereof, in the office of the clerk of the circuit court, for which said clerk shall be allowed a fee of twenty-five cents.

SEC. 3189. *Penalty for refusing to satisfy.*—If any creditor refuse to enter satisfaction within ten days after payment and request, as aforesaid, he shall be liable to any person injured, to the amount of such injury and cost of suit.

SEC. 3190. *Sub contractors and others to give notice.*—Every person, except the original contractor, who may wish to avail himself of the benefit of the provisions of this article, shall give ten days' notice before the filing of the lien as herein required, to the owner, owners or agent, or either of them, that he holds a claim against such building or improvement, setting apart the amount and from whom the same is due.

SEC. 3191. *Duty of contractor when others file lien.*—In all cases where a lien shall be filed, under the provisions of this article, by any person other than a contractor, it shall be the duty of the contractor to defend any action brought thereupon at his own expense; and during the pendency of such action, the owner may withhold from the contractor the amount of money for which such lien shall be filed; and in case of judgment against the owner or his property, upon the lien, he shall be entitled to deduct from any amount due by him to the contractor, the amount of such judgment and costs, and if he shall have settled with the contractor in full, shall be entitled to recover back from the contractor any amount so paid by the owner for which the contractor was originally the party liable.

SEC. 3192. *Who construed as owner or proprietor.*—Every person, including all *cestius que trust*, for whose immediate use, enjoyment or benefit, any building, erection or improvement shall be made, shall be included by the words "owner or proprietor" thereof, under this article, not excepting such as may be minors, over the age of eighteen years, or married women.

SEC. 3193. *When proceeds to be divided pro rata.*—The liens for work or labor done or things furnished, as specified in this article, shall be upon an equal footing without reference to the date of filing the account or lien; and in all cases where a sale shall be ordered and the property sold, which may be described in any account or lien, the proceeds arising from such sale, when not sufficient to discharge in full all the liens against the same without reference to the date of filing the account or lien, shall be paid *pro rata* on the respective liens; provided, such account or liens shall have been filed and suit brought as provided by this article.

SEC. 3194. *Contractor defrauding, guilty of a misdemeanor.*—Any contractor or sub-contractor who shall purchase materials on credit and represent at the time of purchase that the same are to be used in a designated building or other improvement, and shall thereafter use, or cause to be used, the said materials in the construction of any building or improvement other than that designated, without the written consent of the person from whom the materials were purchased, with intent to defraud such person, shall be deemed guilty of a misdemeanor, and on conviction, shall be punished by a fine not exceeding five hundred dollars.

SEC. 3195. *Buildings on the same or adjacent lots.*—When the improvement consists of two or more buildings united together, and situated upon the same lot or contiguous lots, or upon separate buildings upon contiguous lots, and erected under one general contract, it shall

not be necessary to file a separate lien upon each building for the work done or materials furnished in the erection of such improvements.

MINING LAWS.

SECTION 1. The owner, agent or operator of each and every coal mine in this State, employing ten or more men, shall make, or cause to be made, at the discretion of the inspector or other person acting in that capacity, an accurate map or plan of the workings of such coal mine and each and every vein thereof, showing the general inclination of the strata, together with any material deflections in the said workings and the boundary lines of said coal mine, and deposit a true copy of said map or plan with the clerk of the county court of each county wherein may be located the said coal mine; which said map or plan shall be so filed or deposited within three months after the time when this act shall take effect; and a copy of such map or plan shall also be kept for inspection at the office of the said coal mine, and during the month of January of each and every year, after this act shall have taken effect, the said owner, agent or operator, shall furnish the inspector and the clerk of the county court as aforesaid with a statement, and a further map or plan of the progress of the workings of such coal mine, continued from the last report to the end of the month of December next preceding; and the inspector shall correct his map or plan of said workings in accordance with the statement and map or plan thus furnished; and when any coal mine is worked out or abandoned, that fact shall be reported to the inspector, and the map or plan of such coal mine in the office of the clerk of the county court shall be carefully corrected and verified.

SEC. 2. Whenever the owner, agent or operator of any coal mine shall neglect, fail or refuse to furnish the said inspector and clerk as aforesaid with a statement, the map or plan or addition thereto, as provided in the first section of this act, at the times and in the manner therein provided, the said inspector is hereby authorized to cause an accurate map or plan of the workings of such coal mine to be made at the expense of the said owner, agent or operator, and the cost thereof may be recovered by law from said owner, agent or operator, in the same manner as other debts by suit in the name of the inspector and for his use.

SEC. 3. In all coal mines that are or have been in operation prior to the first day of January, 1881, and which are worked by or through a shaft, slope or drift, and in which more than ten miners are employed

in each twenty-four hours ; if there is not already an escapement shaft to each and every said coal mine or communication between each and every coal mine, and some other contiguous mine, then there shall be an escapement shaft or other communication, such as shall be approved by the mine inspector, making at least two distinct means of ingress and egress for all persons employed or permitted to work in such coal mine. Such escapement shaft or other communication, with a contiguous mine aforesaid, shall be construed in connection with every vein or stratum of coal worked in such coal mine, and the time to be allowed for such construction shall be one year when such mine is under one hundred (100) feet in depth ; two years when such mine is over one hundred feet and under three hundred feet, and three years when it is over three hundred (300) feet and under four hundred (400) feet, and four years when it is over four hundred (400) feet in depth, and five years for all mines over five hundred (500) feet from the time this act goes into effect ; and in all cases where the working force of one mine has been driven up to or into the workings of another mine, the respective owners of such mine, while operating the same, shall keep open a roadway at least two and one-half feet high and four feet wide, thereby forming a communication as contemplated in this act, and for a failure to do so shall be subject to the penalty provided for in section ten of this act, for each and every day such roadway is unnecessarily closed ; each and every such an escapement shaft shall be separated from the main shaft by such extent of natural strata as shall secure safety to the men employed in such mines ; such distance to be left to the discretion and judgment of the mine inspector or person acting in that capacity, and in all coal mines that shall go into operation for the first time after the first day of January, 1882, such an escapement or other communication with a contiguous mine as aforesaid, shall be constructed within one year after such mine shall have been put into operation. And it shall not be lawful for the owner, agent or operator of any such coal mine as aforesaid to employ any person to work therein, or permit any person to go therein for the purpose of working, except such persons as may be necessary to construct such an escapement shaft, unless the requirements of this section shall have first been complied with ; and the term " owner " used in this act shall mean the immediate proprietor, lessee or occupant of any coal mine, or any part thereof, and the term " agent " shall mean any person having, on behalf of the owner, the care or management of any coal mine, or any part thereof ; provided, nothing in this section shall be construed to extend the time allowed by law for constructing escapement shaft.

SEC. 4. The owner, agent or operator of every coal mine, whether operated by shaft, slope or drift, shall provide and maintain for every such mine a sufficient amount of ventilation, to be determined by the inspector at the rate of one hundred cubic feet of air per man per minute, measured at the foot of the downcast, which shall be forced and circulated to the face of every working place throughout the mine, so that said mine shall be free from standing gas of whatsoever kind, and in all mines where fire-damp is generated, every working place where such fire damp is known to exist, shall be examined every morning with a safety lamp by a competent person, before any other persons are allowed to enter. The ventilation required by this section may be produced by any suitable appliances, but in case a furnace shall be used for ventilating purposes, it shall be built in such a manner as to prevent the communication of fire to any part of the works, by lining the upcast with incombustible material for a sufficient distance up from said furnace.

SEC. 5. The owner, agent or operator shall provide that bore-holes shall be kept twenty feet in advance of the face of each and every working place, and if necessary, on both sides when driving towards an abandoned mine and part of a mine, suspected to contain inflammable gases or to be inundated with water.

SEC. 6. The owner, agent or operator of every coal mine operated by shaft, shall provide suitable means of signaling between the bottom and the top thereof; and shall also provide safe means of hoisting and lowering persons in a cage covered with boiler iron, so to keep safe, as far as possible, persons descending into and ascending out of said shaft; and such cage shall be furnished with guides to conduct it on slides through such shaft, with a sufficient break on every drum to prevent accident in case of the giving out or breaking of the machinery; and such cage shall be furnished with spring catches, intended and provided, as far as possible, to prevent the consequences of cable breaking or the loosening or disconnecting of the machinery; and no props or rails shall be lowered in a cage while men are descending into or ascending out of said mine; provided, that the provisions of this section, in relation to covering cages with boiler iron, shall not apply to coal mines less than one hundred (100) feet in depth where the coal is raised by horse power. No male person under the age of twelve (12) years, or female of any age, shall be permitted to enter any mine to work therein; nor shall any boy under the age of fourteen (14) years, unless he can read or write, be allowed to work in any mine. Any party or person neglecting or refusing to perform the duties required to be performed by sections four, five, six, seven and eight, shall be deemed

guilty of a misdemeanor, and punished by a fine in the discretion of the court trying the same, subject, however, to the limitations as provided by section ten of this act.

SEC. 7. No owner, agent or operator of any coal mine operated by shaft or slope, shall place in charge of any engine whereby men are lowered into or hoisted out of the mines, any but an experienced, competent and sober person, not under eighteen (18) years of age; and no person shall be permitted to ride upon a loaded cage or wagon used for hoisting purposes in any shaft or slope; and in no case shall more than twelve (12) persons ride on any cage or car at one time, nor shall any coal be hoisted out of any coal mine while persons are descending into such coal mine; and the number of persons to ascend out of or descend into any coal mine on one cage shall be determined by the inspector; the maximum number so fixed shall not be less than four nor more than twelve, nor shall be lowered or hoisted more rapidly than five hundred feet to the minute.

SEC. 8. All boilers used in generating steam in and about coal mines shall be kept in good order, and the owner, agent or operator, as aforesaid, shall have the said boiler examined and inspected by hydrostatic pressure and warm water, by a competent boiler maker or other qualified person, as often as once every six months, and the result of every such examination shall be certified in writing to the mine inspector; and the top of each and every shaft, and the entrance of each and every immediate working vein, shall be securely fenced by gates properly covering and protecting such shaft and entrance thereto; and the entrance to every abandoned slope, air or other shaft, shall be securely fenced off; and every steam boiler shall be provided with a proper steam gauge, water gauge and safety valve; and all underground self-acting or engine planes, or gangways, on which coal cars are drawn and persons travel, shall be provided with some proper means of signaling between the stepping places and the end of said planes or gangways, and sufficient places of refuge at the sides of such planes or gangways shall be provided at intervals of not more than twenty feet apart.

SEC. 9. Whenever loss of life or serious personal injury shall occur by reason of any explosion or of any accident whatsoever, in or about any coal mine, it shall be the duty of the person having charge of such coal mine to report the facts thereof without delay to the mine inspector of the county in which such coal mine is located or situated; and if any person is killed thereby, to notify the coroner of the county also, or in his absence or inability to act, any justice of the peace of said county; and the said inspector shall, if he deem it necessary from

the facts reported, immediately go to the scene of the said accident and make suggestions, and render such assistance as he may deem necessary for the safety of the men; and the inspector shall investigate and ascertain the cause of such explosion or accident and make a report thereof, which he shall preserve with the other records of his office; and to enable him to make such investigations, he shall have the power to take depositions, compel the attendance of witnesses and administer oaths or affirmations to them; and the cost of such investigations shall be paid by the county court of the county in which such accident shall have occurred, in the same manner as costs of coroners' inquests are now paid. And a failure on the part of the person having charge of any coal mine in which any such accident may have occurred to give notice to the inspector or coroner, as provided for in this section, shall subject such person to a fine of not less than one hundred nor more than three hundred dollars, to be recovered of him in the name of the State of Missouri, before any justice of the peace of such county wherein the mine is situate and the accident occurred; and such fine, when collected, shall be paid into the county treasury for the use and benefit of said county.

SEC. 10. In all cases in which punishment is not provided for by fine under this act, for a breach of any of its provisions, the fine for a first offense shall not be less than fifty nor more than two hundred dollars, and for the second offense not less than two hundred nor more than five hundred dollars, to be recovered in any court of the State having competent jurisdiction.

SEC. 11. The county court in each and every county in this State where coal mines are situated, and are now or may be hereafter operated or worked, is hereby authorized, and it is hereby made its duty to appoint an inspector of mines at its first meeting after this act shall have taken effect, who shall have been a resident of the county at least one year prior to his appointment, and shall possess the qualifications of a mining or civil engineer, or shall have had experience in mining and operating mines. He shall also take the oath of office, provided for by the Constitution of the State or the statutes thereof in such cases, and shall be required to furnish satisfactory evidence to the court that he has had sufficient practical experience to faithfully discharge the duties of the office. He shall give a bond in the sum of five thousand dollars in not less than two good and sufficient sureties, who shall be the owners of unencumbered real estate, located in the county, conditioned upon the due, faithful and impartial discharge of the duties of the office; the said bond to be approved and entered of record by the said county court. He shall not be directly or indirectly interested in

any manner whatsoever as owner, stockholder, superintendent or operator, or otherwise, during the term of his office, which term shall be determined by the court, providing said term does not exceed two years. He shall receive such compensation as the county court may determine upon; and the said court may unite the office of "mine inspector" with that of "county engineer." The county court shall provide an anemometer and all other necessary instruments for testing the air; and in all cases where the inspector finds the provisions of this act, or any part thereof, not complied with in operating any mine, it is hereby made his imperative duty to demand and compel, by law, the collection from the owner, agent or operators of every such mine all the expenses of such inspection as provided for in section two (2) of this act; provided, however, that in all cases where the county court of any county in this State fail or refuse to appoint a competent and experienced inspector, as provided by this act, or where the said inspector is appointed and fails to attend to and perform the duties of his office, in accordance with the meaning, intent or spirit of this act, the circuit judge of the said county shall, at the request of any ten citizens of the said county, and upon proper proof of the incompetency or neglect of said inspector to properly perform his duties, as required by this act, remove the said inspector and appoint a properly qualified person to perform the duties of mine inspector for the unexpired term; and who shall be paid out of the county treasury, and whose compensation shall not be less than three dollars per day for every day actually engaged in the discharge of his duties as such mine inspector; the number of days so engaged to be verified by him under oath before the said county court, and entered of record in said court.

SEC. 12. The inspector provided for in this act shall see that every necessary precaution is taken to insure the health and safety of the workmen therein employed; that the provisions and requirements of this act [be] faithfully observed and obeyed, and the penalties of the law enforced against all who willfully disobey its requirements. He shall also collect and tabulate the following facts, that is to say: The number of acres of workable coal lands in the county, the number and thickness of the coal beds and their respective depths below the surface; how they are mined, whether by shaft, slope or drift; the number of mines in operation; the number of men employed therein; and the aggregate yearly production in tons, together with an estimate of the amount of capital employed in coal mining in this [the] county, and any other information relative to coal mining that he may deem necessary; all of which facts, so tabulated, together with a statement of the condition of the mine as to safety and ventilation; and the gen-

eral results of his examination into the causes of all accidents in and about the coal mines of his county, he shall fully set forth, in an annual report to the "Commissioner of Labor Statistics," with his recommendations as to such other legislation on this subject as he may deem proper; he shall also furnish such information as may have been obtained upon this subject when called for by the State Geologist.

SEC. 13. It shall be lawful for the inspector, provided for in this act, to enter, examine and inspect any and all coal mines and machinery belonging thereto, at all reasonable times by day or by night, but so as not to obstruct or hinder the necessary workings of such coal mine, and the owner, agent or operator of every such coal mine is hereby required to furnish all necessary facilities for entering such examination and inspection; and if the said owner, agent or operator aforesaid shall refuse to permit such inspection, or furnish the necessary facilities for such entry, examination or inspection, the inspector shall file his affidavit, setting forth such refusal before the judge of the circuit court in said county in which said mine is situated, either during the term of the court or during vacation and obtain an order on such owner, agent or operator so refusing as aforesaid, commanding him to permit and furnish such facilities for the inspection of such coal mine, or to be adjudged to stand in contempt of court, and punished accordingly; and if the said inspector shall, after examination of any coal mine and the works and machinery pertaining thereto, find the same to be worked contrary to the provisions of this act, or unsafe for the workmen therein employed, said inspector shall, through the circuit attorney of his county, or any attorney in case of his refusal to act, acting in the name and on behalf of the State, proceed against the owner, agent or operator of such coal mine, either separately or collectively, by injunction, without bond, after giving at least two days' notice to such owner, agent or operator; and said owner, agent or operator, shall have the right to appear before the judge, to whom application is made, who shall hear the same on affidavits and such other testimony as may be offered in support, as well as in opposition thereto; and if sufficient cause appear, the court, or judge in vacation, by order, shall prohibit the further working of any such coal mine in which persons may be unsafely employed, contrary to the provisions of this act, until the same shall have been made safe, and the requirements of this act shall have been complied with; and the court shall award such costs, in the matter of the said injunction, as may be just; but any such proceedings, so commenced, shall be without prejudice to any other remedy permitted by law for enforcing the provisions of this act.

SEC. 14. For any injury to persons or property, occasioned by any willful violations of this act, or willful failure to comply with any of its

provisions, a right of action shall accrue to the party injured for any direct damages sustained thereby ; and in case of loss of life, by reason of such willful violation or willful failure as aforesaid, a right of action shall accrue to the widow of the person so killed, his lineal heirs or adopted children, or to any other person or persons so killed, for a like recovery of damages sustained by reason of such loss of life or lives.

SEC. 15. Any miner, workman or other person, who shall knowingly injure any water gauge, barometer, air-course or brattice, or shall obstruct or throw open any air ways, or carry any lighted lamps or shall handle or disturb any part of the machinery of the hoisting engine, or open a door in the mine and not have the same closed again, whereby danger is produced either to the mine or those at work therein, or who shall enter into any part of the mine against caution, or who shall disobey any order given in pursuance of this act, or who shall do any willful act whereby the lives and health of persons working in the mine, or the security of the mine or miners, or the machinery thereof, is endangered, shall be deemed guilty of a misdemeanor, and, upon conviction thereof, shall be punished by fine or imprisonment at the discretion of the court.

SEC. 16. The owner, agent or operator of any coal mine shall keep a sufficient supply of timber, when required, to be used as props, so that the workmen may, at all times, be able to properly secure the said workings from caving in ; and it shall be the duty of the owner, agent or operator to send down all such props when required.

SEC. 17. All acts or parts of acts inconsistent with this act are and the same are hereby repealed.

Approved March 23, 1881.

SECTION 1. Any person or persons who keep any public or private scales, and weighs for themselves or others, mineral, lead, zinc, coal and other ores, who knowingly takes more than twenty hundred pounds avoirdupois for one ton, or fails to correctly balance his or their scale before weighing, or shall fail or neglect to account for each fractional part of a thousand or ton, as the case may be, in weighing any of the ores herein named, which ores are bought and sold by the thousand or ton, shall, for every such offense, forfeit and pay to the party injured, a sum not less than twenty dollars nor more than fifty dollars, to be recovered by civil action before any justice of the peace in the county.

Approved March 28, 1881.

CORPORATIONS: WAGES OF LABOR, HOW PAID.

AN ACT to provide for the Payment of Wages of Labor in the Lawful Money of the United States.

SECTION

1. Orders must be made redeemable in money or goods.
2. Refusal to redeem orders by any person or firm issuing same, penalty.

SECTION

3. Fines under this act, how disposed of.
4. Prosecutions, how commenced.

Be it enacted by the General Assembly of the State of Missouri, as follows:

SECTION 1. It shall not be lawful for any corporation, person or firm engaged in manufacturing or mining in this State to issue, pay out or circulate for payment of the wages of labor, any order, check, memorandum, token or evidence of indebtedness, payable in whole or in part otherwise than in lawful money of the United States, unless the same is negotiable and redeemable at its face value without discount, in cash, or in goods, wares, merchandise or supplies, at the option of the holder, at the store or other place of business of such firm, person or corporation, or at the store of any other person on whom such paper may be drawn where goods, wares or merchandise are kept for sale, sold or exchanged; and the person who, or corporation, firm or company which may issue any such order, check, memorandum, token or other evidence of indebtedness, shall, upon presentation and demand, at any time after the maturity thereof, redeem the same in goods, wares, merchandise or supplies, at the current cash market prices for like goods, wares, merchandise or supplies, or in lawful money of the United States, as may be demanded by the holder of any such order, memorandum, token or other evidence of indebtedness.

SEC. 2. Any officer or agent of any corporation, or any person, firm or company engaged in the business of manufacturing or mining in this State, who, by themselves or agent, shall issue or circulate in payment for wages of labor any order, check, memorandum, token or evidence of indebtedness, payable in whole or in part otherwise than in lawful money of the United States, without being negotiable and payable at the option of the holder in goods, wares, merchandise, supplies or lawful money of the United States, as required by the first section of this act, or who shall fail to redeem the same when presented for payment at or after the maturity thereof, at his or their office or place of business, in lawful money of the United States, or who shall

compel or attempt to coerce any employe of any such corporation, person, firm or company to purchase goods, wares, merchandise or supplies from any particular person, firm or corporation, shall be guilty of a misdemeanor, and on conviction thereof shall be fined not less than ten nor more than five hundred dollars for each and every such offense.

SEC. 3. All fines which may be collected under the provisions of this act shall be paid into the county treasury of the county in which the prosecution shall be instituted, for the benefit of the public school fund of such county.

SEC. 5. Every circuit and prosecuting attorney in this State, upon his own knowledge of the facts, or upon the statement of any person whom he has reason to believe, and does believe to be credible, that any person has violated any of the provisions of this act, may file an information against such person in any court of competent jurisdiction, and prosecute him in the manner provided by law for the prosecution of misdemeanors.

Approved March 26, 1881.

SEATS FOR FEMALE EMPLOYES.

AN ACT for the preservation of the health of female employes.

SECTION

1. Employers of females to provide seats.
2. Penalty for failure—labor commissioner to enforce act.

SECTION

3. Inconsistent acts repealed.

Be it enacted by the General Assembly of the State of Missouri, as follows :

SECTION 1. That it shall be the duty of all employers of females in any mercantile business or occupation to provide and maintain suitable seats for the use of such female employes at or beside the counter or work bench where employed, and to permit the use of such seats by employes to such an extent as may be reasonable for the preservation of their health.

SEC. 2. That any violation of this act by any employer shall be deemed a misdemeanor, and on being thereof convicted shall be pun-

ished by a fine not exceeding twenty-five dollars, at the discretion of the court. And it is hereby made the duty of the commissioner of labor statistics to secure, as far as may be in his power, a proper observance of the provisions of this act.

SEC. 3. All acts or parts of acts inconsistent with this act are hereby repealed.

Approved March 7, 1885.

MEASUREMENT: EARTHWORK, STONEMASONRY, ETC.

AN ACT to provide uniform rules for the measurement of earthwork, stonemasonry work, brick work, stone-cutting work, plastering work and roofing work.

SECTION

1. Measurement of earthwork.
2. Stonemasonry work.
3. Brick work.
4. Stone-cutting work.

SECTION

5. Plastering work.
6. Roofing work.
7. Inconsistent acts repealed.

Be it enacted by the General Assembly of the State of Missouri, as follows :

SECTION 1. Whenever measurement of earth work, stonemasonry work, brick work, stone-cutting work, plastering work or roofing work, is in any case hereafter required to be made for any purpose and no special agreement as to the measurements has been made by the parties, the same shall be made and the quantity thereof ascertained in the following manner and by the following rules: [Earth work].—Earth excavation shall be measured by the cubic yard. To ascertain the number of cubic yards of excavation made, take the length and multiply the same by the width and by the average height, the result will give the number of cubic feet, which, divided by twenty-seven (27), will be the amount in cubic yards. For all trenches and pier holes double measurements shall be allowed. When earth is left in a cellar to protect the adjoining banks or walls the same may be charged double the amount when required to be removed.

SEC. 2. [Stonemasonry work].—Rubble masonry shall be measured by taking the length on the outside of the wall, including the corners, multiplied by the width or thickness of the wall, and this product,

multiplied by the height, will give the amount of cubic feet contained in the wall; this divided by twenty-two (22), will be the amount in perches. Projections from the face of the wall, including chimney breasts, flues, pilasters and the like, twelve (12) inches and under shall be measured by taking the face and adding the two (2) returns to the same; this, multiplied by the thickness and the height, will give the contents of said projection. For projections exceeding twelve (12) inches, measure the length and add one (1) return to the same, and then proceed as last above provided. Pilasters or bith[butresses], bevelling from bottom to top, shall be calculated the same as projections, except that the measurement shall be taken at the bottom of the same. In case of isolated walls, measure length and add two jambs (thickness), multiply by width (thickness) and height. All walls under eighteen (18) inches thick, shall be measured as eighteen (18) inch walls. For arches in walls the superficial face of the arch, multiplied by the thickness of same, shall be added to the full measurement. Separate arches shall be calculated at double measurement. All cut stone work backed with rubble masonry shall be measured as rubble masonry in full. No deductions shall be for openings, but if the same exceeds six feet in length the same shall be deducted, less the amount of jambs on both sides of the opening. Area walls shall be measured by taking the outside, multiplied by height, and with the latter calculated at not less than eighteen (18) inches. Slides and rises under steps shall be measured by taking the length, multiplied by the width and thickness of same, the latter at never less than eighteen (18) inches. Chimney tops shall be measured by taking the full face and adding two (2) returns (widths) and multiplying this amount by the width and by the height. For circular work double measurement shall be allowed. For all corners, more or less than a right angle and carried up plumb, add for each corner eighteen (18) inches additional measurement. Square, isolated piers three feet and six inches (3 6-12) by three feet (3) and six (6) inches, and under, double measurement shall be allowed; from three (3) feet, six (6) inches up to five (5) feet, one (1) and one-half ($1\frac{1}{2}$) measurement shall be allowed; from five (5) feet up to seven (7) feet, one (1) and one ($1\frac{1}{4}$) fourth measurement shall be allowed; over seven (7) feet, single, or actual contents. For all battering piers, declining from bottom to top, take the average width and allow double measurement. Range work shall be measured by the superficial foot, and all openings shall be deducted, less the returning jambs. Steps, sills, caps and coping are measured by the lineal or running foot. Arches over openings are measured in addition to wall measurement. Should there be a different price stipulated for pier work the same shall be measured only single or actual contents.

SEC. 3. [Brick work.]—To ascertain the amount of brick work done in a building, it shall be an established rule that a wall being four (4) inches or one ($\frac{1}{2}$) half a brick wide, or thick, shall be calculated at seven (7) bricks to the superficial foot; a nine (9) inch, or one (1) brick wide wall, at fourteen (14) bricks to the superficial foot; a thirteen (13) inch wall, or one [and] ($1\frac{1}{2}$) one-half bricks wide, at twenty one (21) bricks to the superficial foot; an eighteen (18) inch wall, or two (2) bricks wide, at twenty-eight (28) to the superficial foot, and then raising seven (7) bricks for every additional brick in width. To find the amount of brick work done, measure the length of the wall by the height of same, which will give the superficial area in feet, then multiply this amount by either seven (7), fourteen (14), or any other number of bricks respectively, as the thickness of the wall is one-half ($\frac{1}{2}$), one (1), one (1) and one-half ($\frac{1}{2}$), or other number of bricks wide, and the result will give the exact number of brick work done, including the mortar. Thus for an illustration of the rule and an example: A wall measures thirty feet (30) in length, twenty-one (21) in height, and one (1) brick wide, how much brick work done? $30 \times 12[21] \times 14 = 8,820$ bricks, measure outside from corner to corner, thus allowing double measurement for each corner in the building. Gable and other triangular shaped walls, measure the length, multiply by one-half of the height, and by the respective number of bricks for the thickness. Projections on walls, chimney breasts, flues, pilasters, etc., are measured by adding one (1) return to the length, multiplied by the height and respective thickness; no deduction shall be made for inside vacancy. Chimney tops shall be measured by taking the face and one (1) return for the length, multiplied by the height above wall, and by the number of bricks. Example: A chimney top's face measure, four (4) feet, is eighteen inches, or two (2) bricks wide, and six feet high, how many bricks? Answer: $4 \times 6 \times 2 \times 2 = 756$ [$5\frac{1}{2} \times 6 \times 28 = 924$] bricks; no deduction shall be made for inside flues. All chimney stacks, whether square, circular or octagon shafts, measure solid cubic contents, and allow twenty-one (21) bricks to the cubic foot. All openings in walls shall be deducted, less the reveals or jambs outside of frame. When openings have arches over same, deduct for the height of opening the distance from the sill to the spring of the arch. Openings built without springs, the jambs on each side shall be deducted from the width of the opening. For example, if an opening in a thirteen (13) inch wall measures four (4) feet in width, the deductions will be only one (1) foot, ten (10) inches, multiplied by the height and respective thickness; or, in this case, by twenty-one (21) brick. No deductions are to be made for plates, bond-timbers, joists, sills, caps, lintels, etc., but

two (2) inches in height are to be allowed for bedding plates where brick work is over them. To measure cornices, take the length and height by the greatest projections, which, in no case, shall be less than (4) inches wide, all fractions to be put in the next higher class. Caps are to be measured the same as cornices. In measuring partition walls take the dimensions clear of the front and rear walls. For fire walls and gables, add two (2) courses of bricks, or five (5) inches for cutting the brick and waste thereon. Pilasters are measured overface and one side for length, multiplied by height and thickness. No deductions are to be made for circular or semi-circular openings for arches, vaults, sewer etc.; take outside circumference by the length and thickness. For arches in solid walls, add to measurement the superficial area, multiplied by the thickness of the wall. Projecting arches are to be measured by the length and height from the spring to the top of centre of the arch by the thickness of the projection, which in no case shall be less than four (4) inches, or one-half ($\frac{1}{2}$) brick wide. Vault arches are to be measured one and one-half ($1\frac{1}{2}$) times the outside girth. Oven-coppers, boilers, etc., are to be measured as solid work, deducting only the ash holes, but the fire bricks, tiles, etc., are not deducted out of the brick work. In measuring isolated piers, take the face and one return for the width and multiply by the height and thickness or number of bricks thick. Isolated walls are to be measured by adding to the face two (2) returns or thickness of wall for the length, multiplied by the height and thickness; on corners more or less than a right angle, allow additional the thickness of the wall for each, and corner in the length. In measuring stock or pressed brick fronts take the area of such facing and returns at each corner and deduct openings; all openings where frames occur to be deducted, less the reveals, when the openings are without frames and have the jambs faced through the full thickness of the wall, both jambs to be measured, and four (4) inches on the inside to be allowed. A superficial foot of facing to front will take seven (7) bricks. Brick paving is to be measured by the superficial yard, equal to nine (9) square feet, which will require forty (40) bricks to the yard when laid flat. In brick paving, paving on edge or border, allow double the aforesaid measurement, and in brick on end allow four (4) times the aforesaid measurement. Pointing fronts is to be measured by the superficial foot.

Sec. 4. [Stone cutting work].—For plain rubbed face to ashlar, platform, posts, watertables, cornices, take the superficial measurement upon all parts of the work where exposed. For moulded work to cornices, archives, imposts, etc., girth the whole face of the mouldings, beginning with the tape at the extreme edge of the moulding and

emerging it into the hollows and quirks across the whole face. The dimensions, multiplied by the length, will give the superficial feet. Take all flat circular work at one (1) and one-half ($\frac{1}{2}$) times the straight, and when of a quick sweep, fifteen (15) inches radius or under, twice the straight. Panel work measures double. Measure the different kinds of work for labor, as follows, only by the lineal foot: Rough brush hammered work, one (1) foot and under; fine hammered work, one (1) foot and under; checks under ten (10) inches, checks over two (2) inches, measure double. Rebates, steps and moulded nosings, window sills with nosings, window caps, moulded window caps, moulded string course, pier caps, plain pilaster caps, moulded pilaster caps, moulded cornice, moulded fence coping. Returns for the whole of the above to be measured double. If over one (1) foot high, measure superficial, ditto tooled. The following different kinds of work for labor only shall be measured by the superficial foot: Brush hammered door sills, brush hammered piers of two (2), three (3) or four (4) sides, lintels, pier blocks, base blocks, plinths, measuring four (4) feet and less, measured double, bevelled ashlar. All returns for above measured one and one-half ($1\frac{1}{2}$) times. Ring stones, saddle-back coping, fence posts of various kinds, coarse fire wall coping, chimney tops, double measurement. Platforms measured same as steps, one (1) foot from front, the balance per superficial foot; if the bottom bed is worked, to be charged the same as ashlar. Bed over twelve (12) inches wide to be paid for as rough brush hammered work, with the exception of plinth blocks. Rusticated quoins under twelve (12) inches in bed, superficial measurement; over twelve (12) inches thick, cubic measurement. Rusticated ashlar, superficial measurement.

SEC. 5. [Plastering work.]—Plain plastering is to be measured by the superficial yard, that is, three (3) feet multiplied by three (3) feet equal nine superficial feet. In measuring plastering take the girth of the walls in a room for the length and multiply by the height from floor to ceiling, and from this product deduct one-half ($\frac{1}{2}$) of the amount of the openings, such as doors, windows, etc. All cornices and mouldings, and all work where running mould is used, are to be measured from the nose of the moulding to the wall, and a moulding is designated as being so many inches, according to the girth; the length is taken on the wall line, and one (1) lineal is allowed to each miter. Measure of plain or moulded cornices under twelve (12) inches girth by the running foot, and all above that girth by the superficial foot. The plain parts of ornamented cornices shall be first taken as plain, and the several enrichments therein taken per running foot at their separate values, which, added to the price of the plain moulding, will

give the correct value per foot run of the whole cornice; complete mouldings encircling centers to be measured as mouldings. All circular work double measurement. All inclined or raking ceilings under an angle of twenty-two (22) degrees with the horizon, to be measured as level; over twenty-two (22) degrees, one and one-half ($1\frac{1}{2}$) measurement. Twenty-two degrees is equal to one-fifth (1-5) of the span. Closets and presses under four (4) feet by eight (8) feet, double measurement. Privies shall be measured double; all external angle beads and quirks, per running foot; furring, regulating or stripping on all lath, per square. Whitening and coloring are to be measured in the same manner as plastering. Niches and arches are valued at so much each. Cast and enriched centers to ceilings, fixed and put on complete, so much each, according to diameter. All circular enrichments to be twice the price of straights of the same description. When enrichments are moulded from original designs, the expense of the moulding to be paid for extra. All work done on stone walls with cement or mastic, measured same as plastering, but no openings deducted.

SEC. 6. [Roofing work.]—Slater's work is to be measured by the square of one hundred (100) superficial feet of covering, to this added six (6) inches run for the trouble of cutting the slates on each side of the hips, eaves, valleys, or whenever cut to irregular lines. No deductions are made for dormer windows, skylights, chimneys, etc., except they are over fifty (50) feet superficial feet contents, then one-half ($\frac{1}{2}$) is deducted. Composition and tin roofing is measured in the same manner as the slate roofs, with the exception that nothing is added for hips, eaves, valleys, etc.

SEC. 7. All acts and parts of acts in conflict with this are hereby repealed.

Approved March 31, 1885.

MINES AND MINING: WEIGHING OF COAL.

AN ACT to regulate the weighing of coal at mines and to establish a just and uniform system of weights between employers and employees.

SECTION

1. Screening of coal before weighing prohibited.
2. Weighman to subscribe oath—penalty for violating act.
3. Penalty for using false scales.

SECTION

4. Provisions of act not to be annulled by contract.
5. Act to apply to loaders in certain mines.

SECTION 1. It shall be unlawful for any mine owner, lessee or operator of coal mines in this State, employing miners at bushel or ton rates, or other quantity, to pass the output of coal mined by said miners over any screen or other device which shall take any part from the value thereof, before the same shall have been weighed and duly credited to the employe sending the same to the surface, and accounted for at the legal rate of weights as fixed by the laws of Missouri.

SEC. 2. The weighman employed at any mine shall subscribe an oath or affirmation before a justice of the peace or other officer authorized to administer oaths, to do justice between employer and employe, and to weigh the output of coal from the mines in accordance with the provisions of section one of this act. Said oath or affirmation shall be kept conspicuously posted in the weigh office, and any weigher of coal, or person so employed, who shall knowingly violate any of the provisions of this act, shall be deemed guilty of a misdemeanor, and, upon conviction, shall be punished by a fine of not less than twenty-five nor more than one hundred dollars for each offense, or by imprisonment in the county jail for a period not to exceed thirty days, or by both such fine and imprisonment, proceedings to be instituted in any court having competent jurisdiction.

SEC. 3. Any person or persons having or using any scale or scales for the purpose of weighing the output of coal at mines, so arranged or constructed that fraudulent weighing may be done thereby, or who shall knowingly resort to or employ any means whatsoever, by reason of which such coal is not correctly weighed and reported in accordance with the provisions of this act, shall be deemed guilty of a misdemeanor, and shall, upon conviction, for each such offense, be punished by a fine of not less than two hundred dollars nor more than five hundred dollars, or by imprisonment in the county jail for a period not to exceed sixty days, or by both such fine and imprisonment, proceedings to be instituted in any court of competent jurisdiction.

SEC. 4. Any provision, contract or agreement between mine owners or operators thereof, and the miners employed therein, whereby the provisions of section one of this act are waived, modified or annulled, shall be void and of no effect, and the coal sent to the surface shall be accepted or rejected; and if accepted, shall be weighed in accordance with the provisions of this act, and right of action shall not be invalidated by reason of any contract or agreement.

SEC. 5. The provisions of this act shall also apply to the class of workers in mines known as loaders, engaged in mines wherein the mining is done by machinery, whenever the workmen are under con-

tract to load coal by the bushel, ton or any quantity, the settlement of which is had by weight, the output shall be weighed in accordance with the provisions of this act.

Approved March 18, 1885.

MINES AND MINING: INSPECTION OF.

AN ACT to amend section 11 of the acts of 1881, entitled "an act providing for the health and safety of persons employed in coal mines, and providing for the inspection of the same."

SECTION 1. County court to appoint inspector of mines—bond—failure to perform duty a misdemeanor.

Be it enacted by the General Assembly of the State of Missouri, as follows:

SECTION 1. That section 11 of the acts of 1881, entitled "an act providing for the health and safety of persons employed in coal mines, and providing for the inspection of the same," be and is hereby amended by striking out the word "thousand," in the thirteenth line of said section, between the words "five" and "dollars," and inserting in lieu thereof the word "hundred." Also by adding to said section the following: "provided, further, that any mine inspector failing or refusing to perform any of the duties imposed upon him by this chapter or to perform said duties in such a careless manner as to be detrimental to the health or safety of any person or persons working in any mines in his county, shall, upon conviction thereof in any court of competent jurisdiction, be declared guilty of a misdemeanor and punished by a fine of not more than one hundred dollars, or imprisonment in the county jail not longer than three months, or by both such fine and imprisonment, and any person or persons injured by reason of the failure of said mine inspector to perform his duties strictly in accordance with the provisions of this act, shall have a right of action upon said bond for all damages thereby sustained, to be recovered in any court of competent jurisdiction," so that said section, as amended, shall read as follows: Section 11. The county court in each and every county in this state where coal mines are situated and are now or may hereafter be operated or worked, is hereby authorized and it is hereby made its duty to appoint an inspector of mines at its first meeting after this act shall have taken effect, who shall have been a resident of the

county at least one year prior to his appointment, and shall possess the qualification of a mining or civil engineer shall have had experience in mining and operating mines; he shall take the oath of office provided for by the constitution of the state or the statutes thereof in such cases, and shall be required to furnish satisfactory evidence to the court that he has had sufficient practical experience to faithfully discharge the duties of the office; he shall give a bond in the sum of five hundred dollars, with not less than two good and sufficient sureties, who shall be the owners of unencumbered real estate located in the county, conditioned upon the due, faithful and impartial discharge of the duties of the office, the said bond to be approved and entered of record by the said county court; he shall not be directly or indirectly interested in any manner whatsoever as owner, stockholder, superintendent or operator, or otherwise, during the term of his office, which term shall be determined by the court, providing said term does not exceed two years; he shall receive such compensation as the county court may determine upon, and the said court may unite the office of "mine inspector" with that of "county engineer;" the county court shall provide an anemometer and all other necessary instruments for testing the air, and in all cases where the inspector finds the provisions of this act or any part thereof not complied with in operating any mine, it is hereby made his imperative duty to demand and compel by law the collection of the owner, agent or operator of every such mine, all the expenses of such inspection as provided for in section two (2) of this act: provided, however, that in all the cases where the county court of any county in this state fail or refuse to appoint a competent and experienced inspector, as provided by this act, or where the said inspector is appointed and fails to attend to and perform the duties of his office in accordance with the meaning, intent and spirit of this act, the circuit judge of the said county shall, at the request of any ten citizens of the said county, and upon the proper proof of the incompetency or neglect of said inspector to properly perform his duties as required by this act, remove the said inspector and appoint a properly qualified person to perform the duties of mine inspector for the unexpired term, and who shall be paid out of the county treasury, and whose compensation shall not be less than three dollars per day for every day actually engaged in the discharge of his duties as such mine inspector, the number of days so engaged to be verified by him under oath before the said county court and entered of record in said court: provided further, that any mine inspector failing or refusing to perform any of the duties imposed upon him by this chapter or to perform such duties in such a careless manner as to be detrimental to the health or

safety of any person or persons working in any mines in his county, shall, upon conviction thereof in any court of competent jurisdiction, be declared guilty of a misdemeanor and punished by a fine of not more than one hundred dollars or imprisonment in the county jail not longer than three months, or by both such fine and imprisonment, and any person or persons injured by reason of the failure of said mine inspector to perform his duties strictly in accordance with the provisions of this act shall have a right of action upon said bond for all damages thereby sustained, to be recovered in any court of competent jurisdiction.

Approved March 20, 1885.

CORPORATIONS: WAGES OF EMPLOYEES.

AN ACT to require railway companies or corporations, mining companies or corporations, express companies or corporations and telegraph companies or corporations to give notice to their employes before reducing the wages of such employes.

SECTION

1. Company to give notice of reduction of wages.

SECTION

2. Notice, how given.
3. Penalty.

Be it enacted by the General Assembly of the State of Missouri, as follows:

SECTION 1. Any railway company or corporation, any mining company or corporation, any express company or corporation or any telegraph company or corporation, and manufacturing companies or corporations doing business in this state, and desiring to reduce the wages of their employes, or any of them, shall give to the employes to be affected thereby thirty days' notice thereof.

SEC. 2. Such notice may be given by posting a written or printed hand-bill, specifying the parties whose wages are to be reduced and the amount of the reduction, in a conspicuous place in or about the shops, section, office, station, depot or other place where said employes may be at work, or by mailing each employe a copy of said notice or hand bill.

SEC. 3. Any such company or corporation violating any of the provisions of this act shall forfeit and pay each party affected thereby

the sum of fifty dollars, to be recovered by civil action in the name of the injured party, with costs, before any court of competent jurisdiction.

Approved March 31, 1885.

CORPORATIONS: WAGES OF LABOR.

AN ACT entitled an act to amend an act entitled "An act to provide for the payment of wages of labor in the lawful money of the United States," approved March 26, 1881.

SECTION

1. Orders must be redeemable in money or goods—where corporation, etc., has regular pay day.

SECTION

2. Refusal to redeem orders—penalty.

Be it enacted by the General Assembly of the State of Missouri, as follows :

SECTION 1. That section one of an act, entitled "an act to provide for the payment of wages of labor in the lawful money of the United States," approved March 26, 1881, be and the same is hereby amended by striking out the words "at any time after the maturity thereof," in the fourteenth line of said section, and inserting in lieu thereof the words "within thirty days after date or delivery thereof," and by adding to said section one of said act the following: "Provided, that if said corporation, person or firm engaged as specified in this section, have a regular pay day once in every thirty days, then said corporation, person or firm shall not be required to redeem such token or evidence of indebtedness in cash until the first pay day after the same becomes payable, as hereinbefore provided; and such token or evidence of indebtedness shall be presented for payment in cash only on such pay days," so that said section, when amended, shall read as follows: Section 1. It shall not be lawful for any corporation, person or firm engaged in manufacturing or mining in this State to issue, pay out or circulate for payment of the wages of labor, any order, check, memorandum, token or evidence of indebtedness, payable in whole or in part otherwise than in lawful money of the United States, unless the same is negotiable and redeemable at its face value, without discount, in cash or in goods, wares or merchandise or supplies,

at the option of the holder, at the store or other place of business of such firm, person or corporation, or at the store of any other person on whom such paper may be drawn, where goods, wares or merchandise are kept for sale, sold or exchanged, and the person who, or corporation, firm or company which, may issue any such order, check, memorandum, token or other evidence of indebtedness, shall, upon presentation and demand, within thirty days from date or delivery thereof, redeem the same in goods, wares, merchandise or supplies at the current cash market price for like goods, wares, merchandise or supplies, or in lawful money of the United States, as may be demanded by the holder of any such order, memorandum, token or other evidence of indebtedness: provided, that if said corporation, person or firm engaged, as specified in this section, have a regular pay day once in every thirty days, then said corporation, person or firm shall not be required to redeem such token or evidence of indebtedness, in cash, until the first pay day after the same become payable, as herein provided, and such token or evidence of indebtedness shall be presented for payment in cash only on such pay days.

[SEC. 2.] That section two of the act aforesaid be and the same is hereby amended by striking out the words "at or after the maturity thereof," in the tenth line of said section, and inserting in lieu thereof the words "within thirty days from date or delivery thereof, by said company or its agent," so that said section, when amended, shall read as follows: Section 2. Any officer or agent of any corporation or any person, firm or company engaged in the business of manufacturing or mining in this State, who, by themselves or agent, shall issue or circulate in payment of wages of labor any order, check, memorandum, token or evidence of indebtedness, payable in whole or in part, otherwise than in lawful money of the United States, without being negotiable and payable at the option of the holder in goods, wares, merchandise, supplies or lawful money of the United States, as required by the first section of this act, or who shall fail to redeem the same when presented for payment, within thirty days from date or delivery thereof by said company or its agent, at his or their office or place of business, in lawful money of the United States, or who shall compel or attempt to coerce any employe of any such corporation, person, firm or company to purchase goods, wares, merchandise, or supplies from any particular person, firm or corporation, shall be guilty of a misdemeanor, and, on conviction thereof, shall be fined not less than ten nor more than five hundred dollars for each and every such offense.

Approved March 31, 1885.

LABOR BUREAUS.

The following is a list of the Labor Bureaus in the United States, and the names of the present Chiefs:

BUREAU OF LABOR, WASHINGTON, D. C.,

CARROLL D. WRIGHT, *Commissioner.*

BUREAU OF STATISTICS OF LABOR, OF MASSACHUSETTS,

CARROLL D. WRIGHT, *Chief.*

BUREAU OF INDUSTRIAL STATISTICS, OF PENNSYLVANIA,

JOEL B. McCAMANT, *Chief.*

BUREAU OF LABOR STATISTICS, OF OHIO,

L. McHUGH, *Commissioner.*

BUREAU OF STATISTICS OF LABOR AND INDUSTRIES, OF
NEW JERSEY,

JAMES BISHOP, *Chief.*

BUREAU OF LABOR STATISTICS, OF ILLINOIS,

JOHN S. LORD, *Secretary.*

BUREAU OF STATISTICS, OF INDIANA,

WM. A. PEELLE, JR., *Chief.*

BUREAU OF LABOR STATISTICS, OF NEW YORK,

CHARLES F. PECK, *Commissioner.*

BUREAU OF LABOR STATISTICS, OF CALIFORNIA,

JOHN S. ENOS, *Commissioner.*

BUREAU OF LABOR AND INDUSTRIAL STATISTICS, OF MICH-
IGAN,

C. V. R. POND, *Commissioner.*

BUREAU OF LABOR STATISTICS, OF IOWA,

E. R. HUTCHINS, *Commissioner.*

BUREAU OF LABOR STATISTICS, OF KANSAS,

FRANK H. BETTON, *Commissioner.*

BUREAU OF LABOR STATISTICS, OF CONNECTICUT,

ARTHUR T. HADLEY, *Commissioner.*

BUREAU OF LABOR STATISTICS AND INSPECTION, OF MIS-
SOURI,

OSCAR KOCHTITZKY, *Commissioner.*

BUREAU OF LABOR STATISTICS, OF WISCONSIN,

FRANK A. FLOWER, *Commissioner.*

BUREAU OF STATISTICS, OF MARYLAND,

THOMAS C. WEEKS, *Chief.*

NATIONAL CONVENTION.

I much regret that I was unable to attend the third annual session of the National Convention of Chiefs and Commissioners of the Bureaus of Statistics of Labor in the United States, which was held at Boston, Massachusetts, June 29th and 30th, and July 1st, 1885. There were several strikes then in progress in Missouri, and your Honor deemed it advisable that I should undertake the delicate duties of arbitration, and acting upon your advice, I was necessarily compelled to forego the pleasure and profit of participating in the National Convention.

The National Convention was first organized and held at Columbus, Ohio, in 1883, when there were present the representatives of six bureaus of the eleven then existing.

The second convention was held at St. Louis, in June, 1884, at which time my distinguished predecessor, Hon. Henry A. Newman, was elected president. Maryland and Iowa having then established bureaus, there were thirteen in existence, ten of which were represented in the convention.

At the third convention, held in Boston, in June, 1885, it was found that Connecticut and Kansas had created bureaus, and that the government, appreciating the great benefit derived by the producing and industrial classes from the State bureaus, had promptly established a National Bureau at Washington, D. C. There were, therefore, sixteen bureaus in existence, the officers of thirteen being present at the Boston Convention. Other States will follow in rapid succession, and we may soon expect to see a Bureau of Labor Statistics and Inspection in every State of the Union.

The advantages of the National Conventions are apparent. The officers of the various State Bureaus annually meet in conference, exchange views, and discuss not merely the theoretical questions growing out of the relations of capital and labor with a view to encouraging the one and fostering and protecting the other; but also, by compari-

son of experiences, will yet, it is hoped, arrive at the best and, so far as practicable, most uniform manner of collecting and tabulating statistics, so that there may be a more ready comparison of states and also of foreign countries.

Several able papers were read before the National Convention which are of special interest to the industrial classes of the country, all of which are well worth reproduction here, but because of the limit of this report I can only present in full that of Mr. Edward Atkinson, the well known writer on economic subjects, though extracts from other papers and proceedings of interest to the laboring classes might be made.

STATISTICS OF CONSUMPTION.

PAPER BY MR. EDWARD ATKINSON, READ BEFORE THE NATIONAL CONVENTION
OF LABOR BUREAUS.

GENTLEMEN: It is my purpose to invite your attention to a short treatise on the importance of the statistics of consumption. Our information is becoming very adequate in the matter of production and distribution, but what we do with our abundance is as yet but little known. Let me say a few words in introduction. There is one *a priori* conception which I accept for my own guidance in matters relating either to political, social or physical science, and from which I am prepared to reason deductively. If an apparent rule, law of nature or prime motive of human action is presented to me which appears to control, or which has controlled, the doings of men from the dawn of history to the present day, I deduce the theory that it must have a beneficent rather than a malignant purpose, end or object. That is to say, the pessimist philosophy cannot, in my judgment, possess any foundation in truth. I do not care to disprove, and do not care to have any one else attempt to disprove, a theory, however logical in its form, which is based upon an apparent maleficent law of nature, whether material or immaterial; such a law, like the so-called laws of population or of diminishing returns from land, would condemn the body of man to hunger, famine and pestilence as a matter of necessity rather than a matter of his own choice. It is necessary to my conception of a power which makes for righteousness to supplement that spiritual conception with the idea of material welfare being ultimately within the grasp of man, because the spiritual and the material are but two phases of manifestations of the same life.

It is useless for economists to discuss the old clerical dogmas of the fall of man and the consequent curse of labor. We know that the modern conditions of life have been evolved from those of prehistoric

ages, and therefore the myths of the past must no longer keep science and religion apart. To that end, nothing is more needful, in the branch of science in which we are all interested, than to place before our minds a clear conception of the methods by which social progress has been, and will be evolved. In this view of the matter we must conceive of the effort or labor by means of which subsistence is gained as a method of progress, and not as a punishment for sin. The garden of Eden may be symbolic of the future, if not of the past, when mankind may have earned leisure through the application of intelligence and effort.

We may use both the deductive and the inductive methods, but we may not trust wholly to either; and, unless we can read the prophecy of the future which is written between the columns of our figures or our collation of facts as to the past, our work is truly dry as dust.

Now, there is a permanent custom, rule or law which has controlled, and which now controls, the doings of men, in what we call the production and distribution of wealth, which law is commonly assumed to be distinctly selfish, i. e., selfish in the maleficent significance of that word, and this rule of law is what we know under the title or name of competition. In connection with this view of competition, we are warned that the love of money is the root of all evil; that there is greater moral danger in wealth than in poverty, and that the world, the flesh and the devil are synonymous terms. To the ecclesiastical mind, the methods of business are usually deemed broad ways in which one man seeks to get the advantage of his neighbor, and hence they lead to destruction. Now, these are all such partial truths that they have the effect of very gross errors; and I cannot but think that they are among the causes of the great separation which exists between what is commonly called religion and life; hence the basis of our economic gospel is a profoundly moral one, which will sometime remove the false notions of the necessary business of life which causes this separation to exist.

The distribution of wealth or of products has always been worked in part, if not wholly, by the way of competition, from the earliest to the latest date. This is not so apparent in the period before the change from status to contract as it has been since. Ever since, however, the distribution of wealth or product has been governed by wealth or contract or agreement, the prime force in all commerce or exchange has been competition. In these later days, competition is condemned by many tender-hearted and right-minded persons because they see its hardships and do not see its benefits. They allege that it grinds the faces of the poor; that it makes the rich richer at the expense of the poor, and that it works in other ways toward prosperity and progress.

But this is a very shallow conception of the true function of competition, and when its method is explored to the bottom I think it will prove that in the end competition is the most effective mode of co-operation among men, and that it tends directly toward making a good subsistence common to all persons of ordinary intelligence, industry and health. Its end is therefore beneficent. It will not remove all poverty, because there is, and always will be, a little poverty, due to misfortune or to want of mental and bodily vigor. Such poverty is, however, but the smallest part of that which now exists, and for its relief charity will always suffice. Competition will abate all poverty that is not irremediable, because it stimulates intelligence, and ignorance is the chief cause of poverty.

All commerce being now conducted by competitive methods, we must ask ourselves the elementary question :

WHAT IS COMMERCE ?

It is an exchange of service for service, or of product for product. Each person parts with what he can best spare, and which some one else wants, and each one obtains in exchange something which he needs and which some one else can part with. Each serves the other. Each thinks that he gains by the transaction, and in the long run each one does gain. There can be no permanent commerce or exchange of services, unless it satisfies both parties and is beneficial to both, whether it be between individual men or between nations.

I have said that all commerce is conducted by way of competition, and I assert this even with respect to the so-called co-operative system, which has been so successfully applied to distribution in England. (The co-operative factories in Great Britain are nothing but corporations managed in the competitive way, but mainly owned by factory operatives.) In order to prove this, it must be remembered that there is competition in buying as much as in selling, and the co-operative shopkeepers are combined and compete with other dealers in the very act of hiring the ablest men to buy their goods under the sharpest application of the competitive idea. Very high salaries are paid for this service, and none understand better the common axiom of trade than the managers of the co-operative shops ; that "goods well bought are already half sold." These shops also compete with the common dealers, and in some cases drive them out of the business of distribution. How do they do it? By refusing to grant credits and by requiring every buyer to carry his own parcels away from the shop.*

*I have been informed, since this address was given, that the co-operative shops have of late been compelled to adopt a delivery of parcels.

These are most subtle and useful methods of competition, beneficial alike to the shopkeeper and to the customer. Unless the co-operators adopted such methods of competition even the Rochdale pioneers, who founded the whole system, would themselves have failed. Why does not co-operation succeed in this country in the distribution of product? is a question often asked. The reason is very plain. The shopkeepers of this country early learned and applied a competitive principle to the distribution of articles which are not quickly perishable, which is yet but little comprehended in England in respect to retail traffic, namely, large sales at small profits and large dealings only with cash customers. The margin of profit with which our great shopkeepers are satisfied, and on which they grow rich, is so small that there is little left for the co-operative shop to work upon. In this department competition having already done the work of co-operation in reducing the cost of distribution, and, having proved itself to be a synonymous term, there is nothing left for co-operation to accomplish in the distribution of many of the staple articles of commerce. There is, however, yet great room for improvement in the distribution of perishable articles and in the small traffic. It is the small shops which cost the most for their support. The charge in the distribution of meat, milk, fruit, green vegetables and the like, is the heaviest. The baker is a high-priced man even if he does not grow rich himself. How to abate excessive tolls on small traffic is of paramount interest and importance. It is written: "To him that shall be given, and from him that hath not shall be taken, even that which he hath." That is a hard saying, yet it is a profoundly true one, even to the economist. Let us interpolate a little. To him who hath (gumption) shall be given (opportunity), and from him who hath not (gumption) shall be taken, even (a large share) of that which he hath, namely, of his small products, because his service is of little worth to others. No man can exchange services with another who is incapable of conferring a service himself. The rule of material success in life is never to do anything yourself which you can more easily get done for you by some one else. The employer who can use other men's hands or wits cannot spare his own time or brain for such work, and, conversely, the man who desires to be employed will find the exact measure of his wages to be the exact measure of the service which he is capable of rendering. This is just as true of borrowing and lending. The borrower must find out not only who has capital to lend, but also whether he himself is capable of using it without losing it. There is vastly more capital awaiting use than there is capacity to make use of at this very moment. That is just what's the matter. To him that hath capital which he has earned

himself, whether in his head or in his pocket, shall be given all the capital he can use, and from him that hath no capital, either in his head or hands, shall be taken even that which he hath in his pocket, if his father has left him a bit and he has not been put under the care of a trustee.

One very great advantage in the increase of capital in ratio to the possible use which can be made of it, and the consequent diminishing share of product which capital can secure, will consist in the lessening proportion of those who will be able to live without working themselves, either with brain or hand.

Witness the tremendous revolution which is now in progress in Great Britain. The mere possession of land devoted to agriculture, entirely aside from city property, is computed to have yielded £60,000,000—nearly \$300,000,000—a year rent. To the extent of the purchasing power of this sum families have been enabled to live without work, except they worked from choice. This system has been continued and sustained by custom and statute in respect to the land tenure, until, according to Arthur Arnold, four-fifths of the land of Great Britain is nominally possessed by less than 7,000 owners; and of this four-fifths, the greater portion is held only in life tenancy subject to entails and settlements, so that those who nominally possess it can make no profitable use of it. This rent is now becoming impossible simply by the beneficent working of competition. The competition of our farmers, our railways and of the English steamships has given the masses of the people of England cheap bread, and the 7,000 landlords can no longer exact rent in any great measure by power of mere possession. Yet it is not by their dispossession that a remedy can be found even for their own misfortunes. The need is that the land shall be repossessed, free of incumbrances, so that it can be put to use by its present nominal owners or by others to whom they may sell it when freed from incumbrance, while to the present owners will come the beneficent necessity of working themselves on their land or off it in order to subsist. Without possession there can be no abundant production from land.

Free competition, both in the possession and use of land and its products, has had full play for the longest period over the area of the northern States of this Union where slavery did not exist to any extent. Let us judge it by its fruits. What has it accomplished, especially in New England?

1. It has resulted in the largest aggregate production in ratio to the number of persons employed that has ever been realized in any country.

2. It has reduced the ratio which interest, rent or profit bear to the total product to a less proportion of such product, than is to be found in any other country.

3. It has established the highest rates of wages by working such a distribution of the joint product of capital and labor, that the more effective both become, the larger becomes the share of the laborer in the constantly increasing product.

4. It has assured a good subsistence to lower and lower grades of labor while diminishing the hours and the intensity of the work.

5. It has diminished the proportion which the great fortunes bear to the total accumulated wealth. It has increased the relative number of persons possessing moderate wealth. It has vastly increased the number who possess small savings.

6. It has greatly increased the number of lucrative occupations which are open to women or to men who are out of full vigor.

7. It has rendered the saving or accumulation of a considerable property less necessary to assure a comfortable subsistence.

8. It has reduced the number of hours of work necessary to be devoted to procuring subsistence.

If we accept the misnomer of "the poor" as a generic term for all who do not yet possess property, the poor, as a class, are becoming richer by way of competition, while the rich, who have already become possessors of property, may become no poorer, but are more numerous. In other words, competition is the force which tends to equalize the distribution of the annual product, while steadily increasing the product of each decade, as compared to the previous one.

I do not present these propositions to you with any attention of attempting to prove them at this time. I submit them dogmatically as being capable of proof. Perhaps they cannot all be proved, except by your own work. One of the most important parts of your work may be in this very direction. I think you cannot have failed to observe how very few grades of labor there are, and how evenly, on the whole, a certain share of the annual product is even now divided in each grade. For instance, in New England, where capital is the most ample and effective, the mechanism of exchange most complete, and where specially skilled labor has concentrated in greatest measure, there are certain broad divisions, and in each division the earnings are very uniform. In the lowest plane or grade, the earnings of common laborers do not vary greatly. In the next grade above, the earnings of factory operatives and domestic servants and of women in many other arts are nearly alike, if the cost of boarding the servant be added to the wages. In the next above come the skilled mechanics, railway and telegraph em-

ployes, and with them may be classed a great body of clerks, salesmen and women and a large proportion of teachers. In the next may be found a greater proportion of persons of moderate means and income than can be found elsewhere. And, finally, although there is a great deal of wealth, yet, in my judgment, the wealth of those who are distinctly rich bears a much less proportion to the wealth of the whole community than it does anywhere else. In the State of Massachusetts nearly every other person—man, woman or child—is represented by name on the books of some savings bank, and the aggregate of their deposits is about \$275,000,000. Where has competition been more free than in New England, so far as its own people are concerned? And yet my own computations, which were examined, verified and sustained by Commissioner Wright, and which were made on the basis of his most excellent census of Massachusetts of 1875, proved that the whole capital of the State could not possibly exceed in value three years' production. I therefore present to you one of the most difficult and yet one of the questions most requiring an answer. What proportion of each year's product is or can be saved and added to capital? You will observe that this is a very different and much more complex problem than the question of what is the income of capital, because the income of capital is largely consumed. The capitalist who receives it is in many cases a mere distributor. Let us assume the cases of two men, each of whom receives \$10,000 a year from the earnings of the same railroad or factory. One spends or consumes it in the support of a large family and of many servants and dependents. The other spends or consumes \$5,000 and invests \$5,000 in a new form of capital—a new mill or a new railroad—and it is only this last sum which is added to the aggregate capital of the State in which these two men live. Suppose this joint income of \$20,000 had represented a dividend of five per cent. upon a factory worth \$400,000, then the \$5,000 saved would be only $1\frac{1}{2}$ per cent. added to the productive capital in this or some other factory. All my investigations have led me to believe that the actual addition to capital is very small. I do not believe five per cent. of our annual product for the last 100 years can now be found in existence as capital or even as realized wealth. It would be a matter of the utmost interest if this point could be worked out. The average population for the 100 years has been somewhat over 20,000,000, which would be the same as 2,000,000,000 for one year. If each person saved \$1, or if each worker who supports two others saved \$3, the wealth which this saving represented would be \$2,000,000,000. Assume that each person has saved \$12 or that each worker has represented a saving of \$36 per year, then the aggregate of wealth aside from land would be \$24,000,-

000,000 in 1880. I don't think as great a sum could be found, and the greater part of what there is has been saved in recent years. If \$12 per head per year be an approximate estimate of the total savings which have been maintained, what ratio does that bear to the cost of subsistence? Can we solve that problem? Are my computations approximately accurate when I assign as the average value of our present annual product per person what would sell for \$200, if all were sold at current retail prices including what is consumed on farms? Is ten per cent, as against five or six per cent, formerly, of such \$200—or \$20—now annually added to wealth or capital? It would be over \$1,000,000,000 this year. If ten per cent. of the product of the year has been saved or set aside for the maintenance or increase of capital, how much must we take off from the apparent gain to represent the actual depreciation of the capital previously saved? After all repairs have been made that are possible, mills, works, warehouses and dwellings depreciate; the inventor destroys the accumulations of years; there is nothing constant but change; there is no fixed capital in an absolute sense, and all life is but a conversion of forces. Stability is death. How much can we set aside for reproductive purposes? How much of this will be even moderately permanent? What proportion of the useful things now in existence are more than one generation old? What material work of man is permanent except the opening of the ways. Is the addition to capital more than sufficient to maintain an increasing production? Did the few in whose hands capital and wealth slowly accumulated in the first fifty years of our existence secure more, even for a short time, than \$5 to \$10 per head? Do the many in whose hands capital and wealth are now being accumulated secure, even for a short term, more than \$15 to \$20 per head? Would not future production decrease if any less than is saved were saved and added to capital? These questions are vital; they lie at the very foundation of all the issues to which your time and skill are devoted. Now, if both production and savings are so limited, wherein can greater progress be made, and how can greater welfare be assured? May it not be in a more intelligent use of what we do produce rather than in striving to increase it so fast, small as it may be when considered in ratio to our numbers? Our great fault is a waste of force. We waste in two directions; first, in respect to what is commonly called fixed capital. I will only treat the waste by fire. We burn about one dollar's worth in each hundred of each year's annual product, and we spend more than half a dollar more in a hundred in our clumsy attempts to exten-

guish fires or to spread the loss more widely among insurance companies. If my previous computations are correct as to the possibility of saving or adding to our capital at the rate of \$1,000,000,000 a year at the present time, then we might add 10 per cent to our savings, or \$100,000,000 more, by avoiding two-thirds of the useless waste by fire and of the useless expenditures contingent thereon,

We waste in useless taxation. Our taxes—national, state, county and municipal—approximate \$12 per head. A large portion of this is, of course, well spent. Taxation itself does not constitute an unnecessary burden when the avails of taxes are expended by the government in doing what governments must do or what they can do better than the people can accomplish for themselves. On the whole, it may perhaps be assumed that we get, in value received, 75 cents on \$1 of the sum of our taxes, and our waste approximates 25 cents on \$1.

But my main object in this address is to treat the waste of food. What is the standard or average ration of the working people of this country, and what does it cost? What might be a true ration, and how much could be saved in the cost of food if some of the more simple principles of science could be made a part of the common knowledge of the people? It may be asked, why should we be urged to save when nearly all our present difficulties are attributed to overproduction? The general application of this term always exasperates me. I desire to examine the outside of the head of any one who pleads a general overproduction in order to see how his brain is constituted and what element of common sense has been omitted in his make-up. What we all have in common, and about the only thing we do have in common, is time. What we need most to save is time. What the world requires more than anything else, is time to be devoted to leisure and rest. If we waste our capital, or if we waste our labor, we are making a great waste of time. Now, it is no benefit to any one to shorten the hours of labor by force. It is no benefit to limit the freedom of contract of adults, who are capable of making their own contracts, by legal provisions as to their hours of labor, in my judgment. I am of opinion that all such acts, except such as apply to children whose parents are not suitable guardians for them, work more harm than good. What we have to do is to increase the general measure of intelligence so that all people who are at work will earn leisure by saving force, and when they have thus earned a part of their time and have saved it from the arduous struggle for life, then they will know what use to make of it, and will use it well. Now, half our effort, measured in money, and more than half our time is spent on food. Do we overproduce food or do we misuse it? This question brings me

to the waste of food. It will have become apparent to you from your own investigations and from the consideration of the figures of statisticians, both in this country and in Europe, that aside from those who have earned leisure, either by their own accumulation of wealth or by that which has been devised to them by their ancestors, half the struggle of life is a mere struggle for food.

This is demonstrated by the ratio which the cost of food bears to the cost of all other elements of subsistence, clothing and shelter. But I suspect that if we were to measure the struggle for life in terms of hours rather than in terms of money, we should find that a very much greater part of life was devoted to the production and preparation of food than is represented by the measure even of one-half. You will observe that in these computations of the cost of living which are made in money, all that we obtain is the cost of the food delivered at the house, but no computation is or can be made in terms of money of the labor of the housewife or children in preparing that food for use. Every one knows how continuous and how arduous this is, and herein lies the great waste of force. I do not mean to deal in generalities upon the necessity of teaching women how to cook, although that is fundamental. There is yet more to be done in the way of teaching both men and women what to buy for the purpose of being cooked. I had this conviction long ago without any approach to scientific knowledge in the premises, but by great good fortune, through conversation with Prof. Sedgwick of our Institute of Technology, I have had correspondence with Prof. Atwater, who is here to day, and who will presently exhibit to you diagrams and charts which will prove to you the value of the nutrient material in different kinds of food and its measure in money at the prices which are now paid for food. To him I will leave the burden of treating that subject; but in order to enforce in some degree the principles which he will present to you, I beg to submit some statistics of the practice of two classes of people. According to my observation in past years, when I was directly connected with a manufacturing village, I reached the conclusion that the French Canadians were more skillful in obtaining a good subsistence out of cheap food, *i. e.* low-priced, than any other class of people of whose practice I had any knowledge.

I now present to you the statistics of the cost of food for six months, chiefly in this year, 1885.

I will first give you the cost of the food of nine adult males and five adult females in a boarding house. These people are mostly Irish

		Per day.
Meat.....	\$243 70	9.52 cents.
Milk, butter and cheese.....	165 69	6.50 “
Eggs.....	35 50	1.40 “
Total cost of animal products.....		17.42 cents.
Bread.....	103 70	4.07 “
Sugar.....	48 42	1.90 “
Vegetables.....	33 50	1.32 “
Fruit.....	29 88	1.17 “
Tea and coffee.....	18 00	.70 “
Salt, yeast, ice, spice and sundries.....	54 51	2.14 “
Total.....	\$732 90	28.72 cents.

Now, let me give you the cost of food of a French Canadian family of ten persons who have not changed their habit in any great measure since they moved into Massachusetts. In this family there are four adults and six children, from two to eighteen years old. Three of the children are two years or under, and we will therefore compute the family as equal to eight and a half adults. Their ration was as follows :

		Per day.
Meat.....	\$77 66	5.02 cents.
Dairy.....	71 87	4.63 “
Eggs.....	14 88	.96 “
Total of animal products.....		10.61 cents.
Bread.....	46 08	3.00 “
Vegetables, green and dry.....	43 82	2.82 “
Sugar.....	29 16	1.87 “
Fruit.....	16 28	1.05 “
Tea and coffee.....	9 95	.63 “
Salt, spice, ice and sundries.....	27 72	1.81 “
Total.....	\$337 42	21.79 cents.

Now you will observe that there is a difference in the cost of animal products between these two cases of 6.81 cents, and which is almost exactly the difference in the average cost of food per day, but the French spent $1\frac{1}{2}$ cents more on vegetables, chiefly on dried pease, and I think Prof. Atwater will show you that the actual nutriment in the pease added, is about as much as the meat displaced. I think that when Prof. Atwater examines, as he will, the relative value in sustaining life of the particular kinds of food represented in these two schedules, he will find that the French Canadians have substituted dry peas and beans to such an extent for meat as to have obtained the same amount of nutrition at the difference in cost, which he will presently show you in his diagrams and in his tables. It is also true, I believe, that the French Canadians use the stew pan where we use the frying pan, and herein lies a vast difference. Now this may seem trifling, but you will bear in mind that a saving of five cents per day for the cost of the subsistence of each adult person in the United States at the present time represents in money \$1,000,000,000 a year, and the difference between these two rations is nearly 7 cents per day, or more than \$1,300,000,000 per year. It is curious to think of this. We cannot save this quantity of food—what should we do with it? We cannot sell it—where is the market? If we could apply such intelligence as would make this measure of saving possible, all that we could save would be time; all that we could gain would be leisure. But during the partial adoption of a true method he who learned it would save money, and thus get on in life.

Again, recalling the fact that half the struggle of life is a struggle for food, and that more than half the price of life is the cost of food, I am now able to make one comparison between two periods of time in respect to food in the exact manner which I have suggested to you in the several circulars which I have sent to you. Referring to the first example of the ration of nine adult males and five females for six months, at the present time, I have obtained the data from the same boarding house of the cost of subsisting the same number of adults in 1873. In that year the cost of their food for six months was \$1,083.51, or 42.52 cents per day, now 28.72 cents, a reduction of very nearly 33 per cent. The difference between these two periods in the cost of fuel, light and soap was over 30 per cent. Rent in this village was an arbitrary sum. The factory tenants were charged with barely enough rent to keep them in repair, and were not looked to as a source of income, so that I have no opportunity in this case to compare the relative conditions of shelter. Neither have I been able to make an exact computation of

the reduction in the cost of clothing; but, judging from certain elements which enter into the cost of clothing, I am of the opinion that the reduction has amounted to more than thirty-three per cent. You will observe that the prices of 1873 are in the depreciated currency of that period. It would not suffice for an accurate comparison even to reduce them to the terms of gold, the malignant effect of bad money, or mock money, as the greenback has so well been named, being to vitiate all our statistics. Suffice it that where these figures show a reduction in the cost of living at the present time as compared to 1873, averaging at least thirty-three per cent, the wages of factory operatives who are in continuous employment at the present time are less in gold than the currency wages of 1873 by a difference not exceeding twenty per cent. Wages in gold are now as high or higher than they were then. I think it is proved that the lower wages of the present period will buy very much more food, fuel, shelter, and clothing than could be purchased for the wages of the period of inflation from 1869 to 1873. In fact, I am sure of it, and one of the most useful applications of the standard ration on your part will be to make this fact so plain that "he who runs may read," if you can do so. There is nothing new under the sun. When I made the suggestion to Prof. Atwater to prepare for me a variety of bills of daily fare at varying price, each of which should contain the necessary quantity of protein, fats and hydro-carbon, I did not suppose anything of the kind had ever been done. We will submit to you several examples which are to be perfected for our use at the meeting of the American Association in August. But he also showed me a German pamphlet prepared by a man who is interested in the import of Texas beef and Australian mutton, in which this idea has been fully carried out. There is a bill of fare for a fortnight at a cost of about eighteen cents per day, and it is curious to note how meagre it is for the money.

Let us return to our own problems. It has been shown how great a reduction there has been in the cost of living in recent years. But it may be said, on the other hand, by so much as the factory operatives can now purchase their subsistence at less cost than they did in former years will the producers of food, of timber and of the materials for shelter and of manufactures receive less. May not they suffer as much as the operatives gain? By no means. Herein is to be found the enormous beneficence of the saving of force in the production and distribution of products. The work of the farmer has been enormously reduced by the application of machinery to agriculture, and I need not refer you to the tables which I have compiled on the railway question, by which it appears

that the cost of distribution by railway between 1869 and 1885 represented a sum nearly if not quite equal to the reduction from the currency price of food to its gold value to the present day. We have learned so well how to save the expenditure of force in the matter of primary production and of wholesale distribution, that I think it is perfectly safe to say of Uncle Sam, considered as a concrete individual, that if he works the same number of hours in 1885 as he did in 1865, at the end of the civil war, he can produce or distribute one-third more now than he could then, and this is the secret of what we call over-production. It follows that if we choose to work as hard as we did then we must find a wider market for the special product of our agriculture; or otherwise, if we do not care to work so hard we may work less; that is to say, we may save our time. I think we are saving our time. I believe that the general struggle for life is less arduous, and that remuneration is more evenly divided now than in any previous period in our history, notwithstanding the apparent loss, depreciation and specific lack of employment in certain directions. You overlook a vastly wider field than can possibly come under my supervision. I ask you whether the following statement is not a true one. Accepting the tables which I have submitted to you in regard to the distribution of occupations, it appears that not less than nine-tenths of the population who are engaged in any kind of gainful occupation, that is to say, ninety persons in each one hundred of those who work for money, are either in the position of a small farmer who must work harder than any of his men, or else of a wage earner or salaried person. Now I ask you with respect to the wage earners if it is not true that seventy-five per cent, in point of number, are now in continuous employment at as high rates of wages as they ever received before? Furthermore, is it not true that of the remainder fifteen per cent are at work at rates of wages which have not been reduced on the average twenty per cent from the highest point, and, therefore, are as well off as ever before? Is it not also true that five per cent of the remainder, or more, have partial employment as they usually had? Is it not, then, true that the proportion who are out of work constitute less than five per cent of the whole force? Where is there a large body of unemployed persons at the present time, aside from the two or three particular branches of occupation in which there has been a temporary congestion? If you answer these questions affirmatively, do you not, then, declare in terms that the working people, as a whole, are to-day more prosperous than they ever were in the history of this country? Is this not the fact when we get to the bottom of it? If so; whence the loud cry of hard times, of loss and of depreciation? Is not our whole problem,

how to make the work continuous and how to avoid the great fluctuations in the demand for labor, even if only a small proportion are adversely affected by these variations of demand? I can only say, in a very few words, that in my judgment that which is now happening, or has been happening during the last two years, has been an adjustment of labor and capital to new conditions which have been developed since the war, and of which we are now feeling the secondary effects. These new conditions are of the most profound and revolutionary character. They represent a vast saving of force in production, in distribution, and in the great commerce of the world. What are they? First, the abolition of slavery in this country and the effective application of free labor; second, the extension and consolidation in the railway service, especially of this country, but also in other countries; third, the opening of the Suez canal; fourth, the invention of the Bessemer process for making rails; fifth, a vast improvement in steam engineering, whereby the application of fuel to the arts has been reduced more than one-half in quantity and in cost; sixth, the extension of the telegraph system; seventh, the invention of the telephone; eighth, the restoration of a specie standard of value in countries which had for many years been on a paper basis. Each one of these changes, improvements or inventions has eliminated a part of the cost of subsistence, if cost be measured in terms of labor. Aside from these startling changes and new inventions, almost every customary process has been made easier, quicker or more productive. It was, therefore, in the way of progress that the elimination of cost in terms of labor should find its ultimate expression in a reduction in prices or in an advance in the rate of wages;* the ulti-

* Very able arguments have been presented by Mr. Goschen, Mr. Giffen and others, in which this great decline in prices is imputed to an increasing scarcity of gold. In Mr. Giffen's recent article in the June "Contemporary Review" he gives a very clear statement of all the facts in the case, and while referring somewhat incidentally to the improvements which have been made in the processes of production and distribution, he yet attributes the reduction of prices to the diminishing product of gold. I can only regard this as an hypothesis unlikely to be proved, because both Mr. Goschen and Mr. Giffen seem to me to give very little regard to the element which I should consider the chief cause of a reduction in price. They take note, it is true, of the increasing quantity of staple products as a factor, but they do not appear to give any attention to the fact that the increased product is the result of the same or of a less quantity of labor. In order to demonstrate the effect of this important element in the case we may also present hypothetical conditions.

First.—Let us suppose a given community engaged in manufacturing and farming, and supplied with all the coin it needs to serve for its instruments of exchange

mate effect of all invention, as I have attempted to prove in an essay on "The Distribution of Products," being to leave with the laborers an increasing share of an increasing product, and to leave to capital a decreasing share of an increasing product which may yet be consistent with an

and for bank reserves. Consumption is restricted, because the roads are bad and the time required to make the exchange is long. If a large quantity of gold is added to the quantity of coin, without being accompanied by other improvements, through the sudden opening of a mine in which the labor cost of procuring the gold is small, would not the only effect be a rise in prices, unless the coin could be exchanged for imports?

Second.—Suppose, on the other hand, that no addition is made to the stock of gold, but that railways are substituted for common ways, with no improvement in the processes of production. Yet would there not be a great saving of time in making the exchanges, and would not this cause less coin to be required? Would not a fall in prices of bulky commodities probably ensue, if this change were accompanied by a transfer of the coin which could be spared to foreign countries in exchange for something which had before been beyond the means of the community?

Third.—Suppose a great reduction in the labor cost of production and of transportation were made at the same time, with no addition to the stock of coin, in such case would not increased consumption and activity ensue, the saving of time offsetting the increase of transactions, so that the old stock of coin might still suffice, and the end would be greater abundance and increased consumption at the same prices?

Fourth.—But now let us assume what seem to me the actual facts. Between 1850 and 1860 the modern railway and the modern steamship began to have their effect upon commerce. Agricultural machinery, improvement in steam engines and in the processes of manufacture began to have their effect on production—the electric telegraph came into use—and had the volume of the precious metals remained the same, a great reduction of prices might well have been expected growing out of the increased production and decreased cost of distribution and great saving of time. Such had been the effect of the last series of great inventions, such as the first application of steam, of the power loom, of the locomotive and the great development in iron mining and manufactures, without which England especially could not have sustained the wars of the first part of the century. But coincident with the changes in production between 1850 and 1860 came the vast addition of the precious metals at the lowest possible cost of production, and they more than counteracted the lessening cost of production of other commodities. As compared to 1845-50, prices steadily rose until the advance culminated between 1870-75. Increase of gold in circulation more than counterbalanced the increased production and wider distribution of other commodities. It will be observed that in such periods great fortunes are made, because the rise in wages is much more slow than the rise in prices, and wage-earners are the great consumers of the goods and wares from the sale of which fortunes are secured. The advantage which rising or high prices bring to wage-earners is that of continuous employment; otherwise they are a disadvantage to them. During the period from 1865 to 1875, however, another era of unusual invention and of great reduction in the labor cost of

absolute increase in the amount of capital saved. But in such vast changes the accumulation of property, *i. e.*, capital, has borne the burden of the change. The recent period of depression has been the rich man's funeral, and not the poor man's. The recent period has been one in which capital has been reduced in its market value, *i. e.*, in the price

all production took place, and again it would have been reasonable to expect a fall in prices; but, although the panic of 1873 had been severe, it did not result in a permanent fall—it caused a fluctuation only—the enormous mass of precious metal added between 1850 and 1870 had not worked out its full results. The excessive abundance of gold enabled Germany to substitute gold for silver, and in this way caused a depreciation of silver, the product of which was still increasing; the United States and Italy found abundance of gold for their purposes without causing a sign of scarcity anywhere, and such has been the stimulating effect on prices of the vast addition to the stock of gold at low cost of production that the effect of all these improvements, which would otherwise have immediately caused a decrease in the prices of grain, cotton, iron, copper, sugar, textiles—in short of every great staple except lumber—was deferred until 1882-3. This great and sudden excess of gold has now at last become disturbed; the production of gold is ample to provide for waste; there is no sign of a scarcity anywhere of gold, and there is still a small excess of silver, and at last the beneficent results of all the inventions to which I have referred are becoming apparent, from which we are now obtaining our vast abundance of food, fuel, metal and clothing, accompanied by a great reduction in rents, both of land devoted to agriculture and of city property, and we have at last the lower prices to which they entitle us. In such periods the owners of railways, factories, warehouses and works which have been constructed on a basis of high prices, must suffer; merchants and manufacturers who carry stocks of goods also suffer, and the small proportion of the working classes who are customarily employed in constructive enterprise find employment with difficulty. All the rest gain. Abundance and low prices are a permanent benefit—the great volume of the necessary traffic, which constitutes at least ninety per cent. of the whole, goes on its customary way, and, when the adjustment shall have been made, when constructive enterprise begins again and when general prosperity returns, every one will see what is now apparent to only a few; that such hard times as are produced by an abundant production at a decreasing cost, measured in terms of labor, are, in fact, the periods when the mass of the people are making the greatest progress in substantial welfare. Aside from the entirely abnormal conditions of war, I have myself witnessed the purely commercial crisis of 1857, the railway panic of 1873, the long period of depression and progress preceding the restoration of the specie standard in 1879, and the recent era of abundance and adjustment of prices which have been called “the hard times” between 1882 and 1885. Each of these periods has been one of the cure of a previous disease in the financial fabric and after the remedy has worked great prosperity has ensued; and the present era will, in my belief, very soon prove to have been one of the most wholesome processes, during which the foundations are being laid for rendering the struggle for life vastly easier than it has ever been before, and in which a very few will have suffered for a time, while the vast majority will have gained. Time would not suffice to analyze the beneficent effects of permanently low prices growing out of abundance, but if you have followed me closely you will observe that such low

at which it could be sold or exchanged, much more than labor. The price of wage of labor, taken in the aggregate, has been reduced much less than the price of capital. The purchasing power of wages has increased, while the income of capital has decreased. I believe we are now entering upon a new period, which will be a period of great progress and prosperity for rich and poor alike in this country upon this new foundation of more effective capital and more productive labor.

In this hasty sketch I have endeavored to present to you the importance of some of the suggestions which I have made for determining, first, the relative share which capital can secure from our present product; second, the relative share which enures to the laborer; third, the use to which the laborer may put his share, as indicated by the statistics of consumption. These problems present almost a new field to the statistician, and the application of these statistics by scientific methods may result in showing a way of saving force which will become a part of the common knowledge. What is this purpose, merely bread and butter? Far from it. When we have learned the way through labor to leisure, well earned and well used, we shall have established a moral basis for the material science to which we devote so much of our time and of our attention. Through effort and labor to knowledge, through the control which a knowledge of science may give over the forces of nature to leisure, and through leisure to welfare not only material, but also moral and spiritual, appears to be the method of evolution which the power that makes for righteousness has established as the law governing that portion of human life which is spent on this earth, while man dwells upon it in a material body.

Gentlemen, I have addressed you with a great sense of the responsibility which rests upon you. You are looked upon, to a certain extent, as the special spokesmen of laborers. It has been in their interest, as a distinct class, that your offices have been created, and that you have been charged with your duties. Yet for you to become parties in

prices are accompanied by correlatively high wages, the necessary consequence being a much more equitable and natural division of products between labor and capital, to the enduring advantage of the former.

In the periods of adjustment to a lower plane of prices and to lower wages, even if the wages of those whose employment is continuous are somewhat reduced, there may be real hardships and many more which are imaginary, both tending to widespread discontent. Most of these difficulties would be greatly alleviated if very sudden fluctuations could be avoided. Yet whatever may be the dangers and distress occurring in such periods, I am of the profound conviction that each adjustment to such lower and lower prices as are caused by an increasing abundance of products at a lessening cost, measured in terms of labor, is a step in material progress and to the lasting benefit of the working people of the country.

a supposed conflict between laborers and capitalists would be most disastrous to those whom you are assumed especially to represent. Nothing can be more important to the rights of labor than that laborers should respect the rights of capital, while the danger of the laborer consists in the greater measure in restrictive legislation than that of any other class. Capital can adjust itself to almost any conditions, and can even secure to itself a larger share of the smaller product which will inevitably ensue when free competition is restricted by statute laws; but the laborer who invokes the power of the law to deprive him of the liberty of contract, and who prevents the free working of competition by such restrictive statutes, must bear the greater share of the loss which will almost certainly ensue, even more than his relative proportion. In the last analysis the earnings of the laborer rest wholly upon his individual character, capacity and integrity, and any statute or legislative act which prevents him from disposing of his time, his skill, his work, or his money with absolute freedom, provided he does no injustice to his fellows, will be the gravest misfortune to which he can be subjected. I know of no position of trust or responsibility which calls for higher quality of mind than the positions which you hold. No one knows better than the statistician what a snare statistics may become, nor how untrue may be the deductions from them if they are not complete, or if they are not used with judicial integrity and under the strictest sense of responsibility to truth.

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